HIGHER EDUCATION FOR EMPLOYABILITY:

THE DEVELOPMENT OF A DIAGNOSTIC MATURITY MODEL

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THE DEVELOPMENT OF A DIAGNOSTIC MATURITY MODEL

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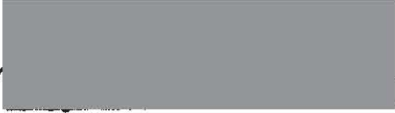
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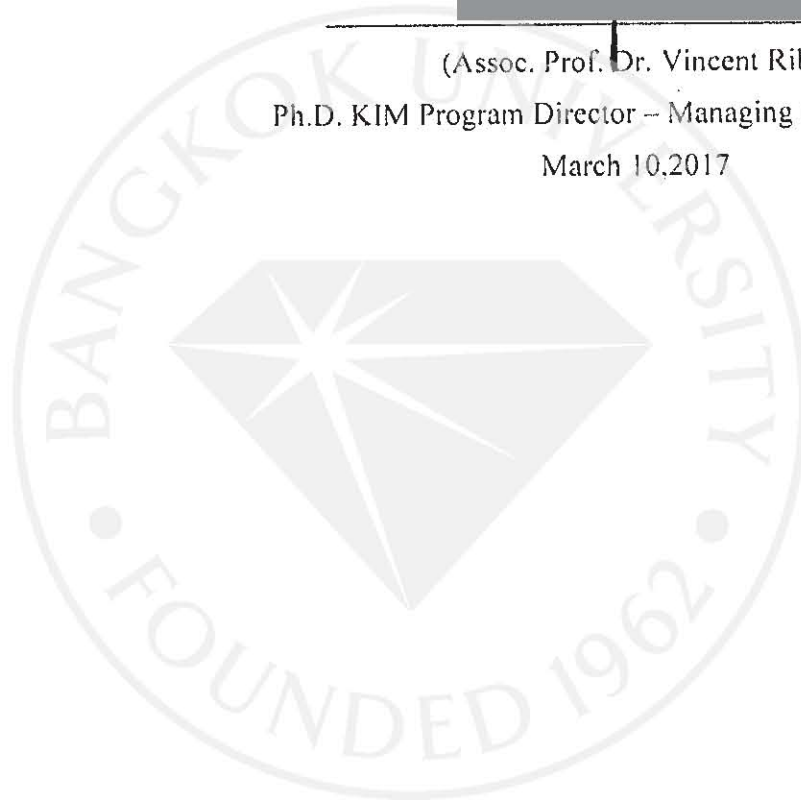(Assoc. Prof. Dr. Vincent Ribière)
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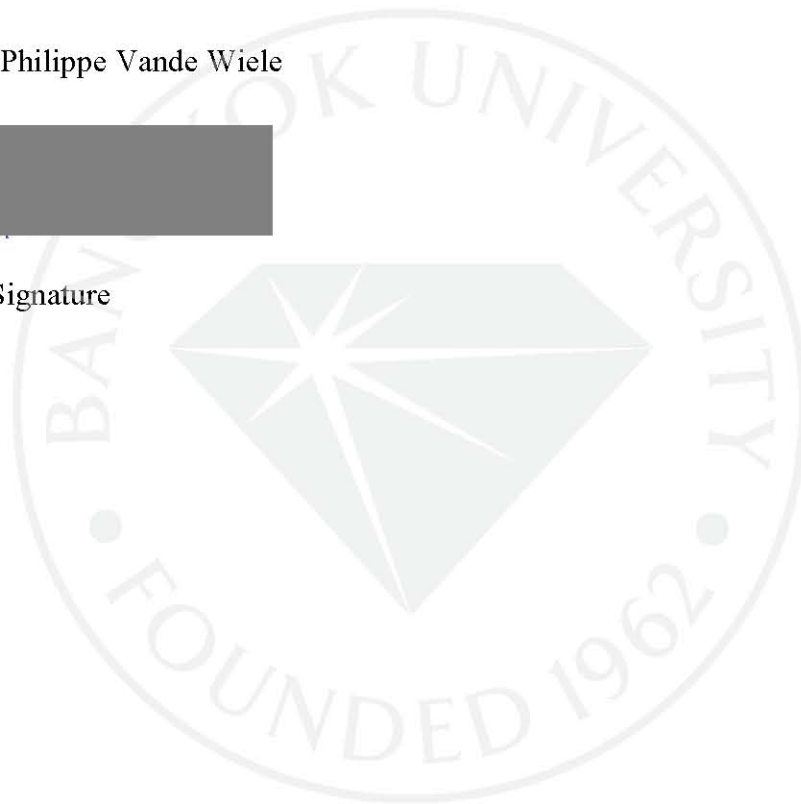March 10,2017

DECLARATION

In accordance with the Bangkok University Honor Code, I certify that my submitted work here is my own work, and that I have appropriately acknowledged all external sources that were used in this work.

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ABSTRACT

Over the least two decades, the debate around the role and ability of Higher

Education (HE) to address the development of human capital for societal and

economic progress has been re-ignited. The catalysts of this debate, that has been

latent since the 1960's, are the new economic and societal realities of the 21st Century,

a continued rhetoric by industry of a mismatch between profiles of graduates and

labour market requirement, and questions around fitness for purpose of Higher

Education Institutions (HEIs). Against this backdrop the term 'employability' has re-

emerged as an overarching construct to address this issue in political and quality

assurance contexts. The construct's highly complex, relative and evolving nature and

the plethora of attempts to its conceptualization have rendered employability to be a

very elusive topic for HEIs. This gives rise to the following two research questions

this study aims to tackle: RQ1 How can a HEI address employability? and RQ2 How

can a HEI be diagnosed on its fitness for purpose in terms of employability?.

Assuming the pertinent role of HE in the employability debate, this study contends the adoption of a holistic perspective of the employability construct whereby its influencing factors are of intrinsic, extrinsic and actionable nature. This sets the groundwork for the proposal of a diagnostic mechanism to comprehensively evaluate institutional practice for employability with the eye on improvement. Using the perspective of HE for employability as a transformation process and applying value chain principles towards unpacking the institutional process a HEI has in place, this study identifies a comprehensive set of institution wide practices that are conducive to employability which forms the basis for the construction of a maturity model for its diagnosis. The bi-dimensional nature of maturity models i.e. situated between model and method makes it an appropriate solution to pursue in light of both research questions. Its construction requires the carefully unpacking of the process it intends to represent and its application allows for the evaluation of the process with the eye on potential improvement.

This study aims to present the development of the Employability Development and Assessment Maturity Model (EDAMM) following a pragmatist Design Science Research methodology. In such the model is constructed out of the interplay of a number of design cycles, relevance cycles and rigour cycles. These cycles respectively present the construction of the model, the reality on which it is stooled and the underpinning theoretical knowledge based in which it is rooted. Case studies on undergraduate programmes at three HEIs in the Middle East, Asia and Europe are, in complement with exhaustive literature review, used to build a first version of the

model. This preliminary model is then subjected to expert scrutiny through a Delphi Method to arrive at a validated proposal of the maturity model this study asserts as the answer to its research questions.

The EDAMM structure consists of five general levels of process sophistication (read: maturity) which have been termed traditional, espoused, enacted, integrated and optimized. The institutional transformation process for employability has been unpacked by means of five thematic categories of activities (read: dimensions) i.e. Curriculum, Leadership, Quality Measurement, Industry Relations and Employability Support Services. For each of these dimensions a series of qualifying indicators (read: criteria) were identified to effectively evaluate the activities in the context of this study, resulting in a total of 22 criteria. At each maturity level, evaluative gradient descriptions were developed for the dimensions and their respective criteria to allow for a diagnosis of the total transformation process using an application format following good maturity modeling fashion. The final model is then applied to the three case studies as a form of proof of concept.

As a first in its kind, this model presents a novel introduction of maturity modeling in the context of HE quality assurance for employability. Not only is it a practical tool towards quality claims, but it also implicitly outlines pathways for improvement. This contributes to the body of knowledge around effective HE practices for employability through the investigation of up to date the most comprehensive set of operational sub domains of HE in an employability context. This study further strengthens the methodological approach of Design Science Research

towards the production of knowledge artifacts and maturity models in particular.

Compared to longer standing traditional methodological lenses, this pragmatist methodology is rather novel in research towards theory development and modeling for complexity. The methodology is described in high detail and is hoped to inspire other researchers to embrace Design Science Research for the building of knowledge artifacts. Finally this study also promotes the use of the Delphi Technique as a validation mechanism for model development, further supporting the power and applicability of expert consultation in academic research.
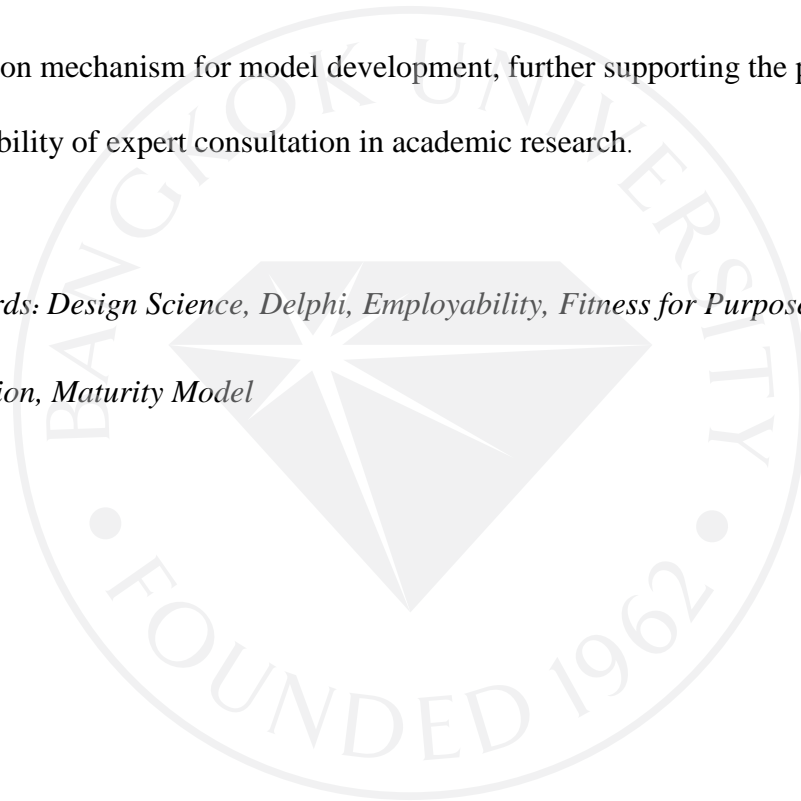
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My sincerest gratitude goes out to all those who have been instrumental to the development of this research. As far as the last four and a half years are concerned, this project has shaped and reshaped me as a person. I feel indebted to all who have supported me throughout this journey.

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I owe my parents and brother the world for setting me on the path to be where I am today and unconditionally support and encourage me in whatever it is I chose to do in my life.

To my musical muse that has always allowed me to disconnect, recharge and reconnect with unlimited inspiration. You continue to show me the liberating power of fearlessness, no expectations and soul movement. I owe you my sanity.

Finally, to my best friend and unequalled source of wisdom, calm and perspective, Elgin, hayatım benim, there is nothing in the world I cannot do with you by my side.

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CHAPTER 4: DEVELOPMENT OF EDAMMv1 OUT OF 3 CASE STUDIES

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DISSERTATION OUTLINE

Chapter 1 provides the traditionally framing yet fundamentally important statements of any doctoral study. After a brief outline of the context, the problem statement is concisely discussed inclusive of the formulation of the research questions this study aims to answer. After this, the purpose of the research is clearly identified and its significance is argued by means of presenting this study's contributions.

Chapter 2 addresses the literature review that places this study in its theoretical context by outlining the current state of the art around HE and employability. The exploration of the literature mostly concerns the use of online databases such as Proquest, Science Direct, Wiley Online, Taylor & Francis and Google Scholar, allowing to amass a large body of literature on relevant topics. Complementary to this, websites from Ministries of Education of a variety of countries were used to explore further literary leads on the topic. Websites specifically concerned with the place of Employability in Higher Education were also consulted e.g. www.heacademy.ac.uk and http://www.assuringgraduatecapabilities.com. Furthermore, websites of a variety of universities were consulted around employability statements, approaches and research publications. The exploration of all these sources resulted in a body of over 500 mostly scholarly works consisting of peer reviewed articles, governmental and non-governmental reports and studies, conference papers, independent studies, books and some independent website content and publicly printed articles. The four main literary domains explored for this study are: the knowledge economy, employability, employability and higher education, and maturity modeling. Most of the literature situates itself within a timeline of 10 years whereby the most pertinent works that have guided the exploration of further literature are all of publication date 2010 or

more recent. However, some of the fundamental works around the topic are of course older because the discussion around employability and higher education goes back to the 1960,s, highly influential works on the topic were published around the turn of the century and the root of maturity modeling was laid at the middle of the previous century. The literature review for this study starts with unpacking the employability construct by means of giving an account of a variety of definitions, models and frameworks in order to illuminate the construct and arrive at operationalizing it for the purpose of this study. In a second section the relation between HE and employability is explored with particular focus on reported effective practices. In a third section the most pertinent literature around maturity modeling is introduced to conclude with a brief account of how maturity modeling has been applied in HE. Finally a summarizing conclusion is developed that sets the scene for the remainder of the study.

Chapter 3 presents the proposed methodology for this study. After a brief statement around the overall epistemological and ontological position this study assumes, the central methodological approach of Design Science is unpacked and a detailed account is made of the methods that will be deployed in realization of this research. A detailed description is provided around the case study approach towards the building of the model and the Delphi Technique for its validation. This chapter gives ample attention to research rigor by detailed description of the methodology and by dedicating specific attention to reliability and validity of the approach and the place of the researcher in the study.

Chapter 4 presents a short address to the three case studies that root the development process of the model in a relevant and meaningful reality. The bulk of

the chapter outlines the discussion of the cross-case patterns and how they form the

tail-end of the first design cycle to result in the EDAMMv1.

Chapter 5 addresses the key notions around the expert consultation and the

resulting development of the final version of the model. This chapter describes the

administration of the consultation as well as the key results that came out of this

consultation towards the review of EDAMMv1 and proposal of a validated

EDAMMv2.

Chapter 6 provides a comprehensive conclusion by starting with an outline of

the context that engulfs this study and its problem statement. It progresses into a

concise formulation on how the study addresses the research questions and outlines

the key components of the model. The discussion of the model, the crux of this study,

is then in good academic research fashion tied back to the most relevant literature

from Chapter 2. After a concise articulation on how this study has finally contributed

to the body of knowledge, the chapter is closed with remarks around limitations of

this study and the identification of avenues for future research.

The references outline all the literature that has been used in order to build the

research presented in this document.

The appendices to this document – submitted in a second volume to this thesis -

provide the fundamental additional supporting documents to this study. The data sets

overall have amassed to a large set of documents that were felt to be invaluable to be

added to this manuscript (i.e. interview recordings, interview transcripts, coded

transcripts, institutional documentation, data aggregation for case study development,

log book and Delphi Surveys), however the bulk of them can be made available upon

request should the reader feel this required to cross check claims made in this

research, however in some cases they would have to be dedacted in order to respect the anonymity of the respondents, and in other cases, some of the documentatio (particularly institutional documentation) was made available under the premise that they would not be shared beyond the research team.

CHAPTER 1

INTRODUCTION

"Education creates the future, and there is no more important task and no nobler calling than participating in that creation."

1. Background and Context

1.1 The Place of Knowledge in the World

The place of knowledge in today's world has been given much attention over the last five decades on the end of its economic and societal value, which has led to the emergence of the terms 'knowledge economy' and 'knowledge society'. (Gilbert, 2005a) points at the difficulties to fully understand the new dynamics that these paradigms have brought with them, and subsequently the challenges to act effectively, meaningfully and purposefully in this 'new' world.

The concept of knowledge society has grown out of addressing the meaningfulness and purposefulness of its preceding conception (i.e. the 'information society') around people's access to information and the address of the digital divide. The goal of such knowledge society should be human development with knowledge as a tool for both economic and societal development whereby discussions around quality, meaningful and relevant education are instrumental in crafting such a context (UNESCO, 2005; David & Foray, 2002) present the undeniable importance of knowledge communities in knowledge societies. These communities consist of a considerable number of interactive members exchanging and circulating knowledge in a public space through the intensive use of new information and communication technologies for knowledge codification and transmission. Dasgupta & David (1994) assert a social ethos to be present in such communities where the motivation of its

members is to disclose and share knowledge. Hargreaves (2003) casts doubt over the ability of primary and secondary education to be such knowledge communities, at least under their current modus operandi, but does not make such statement with regards to Higher Education (HE). Due to the substantial changes that have occurred over the last few decades in knowledge production, diffusion and application, HE is bound to play a fundamental role in the future of this world of knowledge towards a healthy social and political climate that spurs economic and cultural development (UNESCO, 2005; Gilbert, 2005a). In this rhetoric, HE should contribute not only to the production, transmission and upgrading of knowledge but also to education for citizenship and therefore arguably be more effective at adapting to and anticipating the needs of society and its future.

The world economy has undergone substantial changes over the last century at both macro and micro level. Global phenomena such as democratization, capitalism, globalization, environmentalism and consumerism among others have substantially reshaped the socio-economic scene with the emergence of developing economies on the one hand and paradigm shifts within developed economies on the other hand. Part of the change in the economic landscape as it entered the 21st century is the strongly established notion of the knowledge economy. Drucker (1993) described the emergence of knowledge economies as the entering of a post-capitalist development where wealth creation depends on knowledge rather than on pure ownership of capital. Therefore, economies have become strongly dependent on knowledge, its creation and how it can be leveraged (Drucker, 1993; Nonaka, 1994). In knowledge economies knowledge is the most strategic resource and therefore a critical determinant for competitive advantage due to its higher immunity to imitation, its

social complexity and its heterogeneity (Barney, et al, 2001). Grant (2002) views the knowledge economy as an extension of the resource based economy whereby knowledge is the resource with the most competitive advantage and therefore instrumental to the use of other resources. ESG (2004) states that knowledge creation and diffusion sit at the heart of the contemporary economic activity and draws attention to the fundamental role of people as creators, disseminators, adapters and users of data, insight, intuition and experience in the value creation process. Considering the current state of the knowledge economy and the potential of its progression towards something sustainable, UNESCO (2005) points at the need to address some major issues such as access to information and knowledge bases, uneven development from one sector to the next, issues around IP in a context of public knowledge and fragmentation of knowledge bases.

1.2 Employment in the Knowledge Economy

The shift towards the notion of a knowledge economy has sparked debates around the future of employment therein. These debates are generally held by positions on a continuum between perspectives of utopian or dystopian nature (Fevre, 2007; Sennett, 2006; Leadbetter, 1998). Leadbetter (1998) views the fluidity and knowledge-intensity of the current economy optimistically in the sense that it will easily absorb the skills and intellectual capital of its actors. This view sees opportunity for empowerment of workers whereby their knowledge is no longer constrained by former traditional corporate strategies and structures. The empowerment comes out of the heightened flexibility and wider variety of competencies demanded in current employment settings which offers individuals greater potential to compile a larger portfolio of competencies and experience to trade-off during their career cycle (Arthur

& Sullivan, 2006). This view finds an ally in Becker's (1975) human capital relation between economic growth and education whereby individuals receive positive returns when engaging in the labour market by capitalizing on their formal and informal education in combination with proactive and flexible approaches in their working lives. Hancock, et al (2009) and Fugate, et al (2004) report on the demand in the current economy for people that are adaptive, flexible and able to take initiative. They further arguesuch attributes to result in higher productivity, higher potential earning, better working conditions and higher levels of work fulfillment.

Sennett (2006) on the other hand views the contemporary employment situation less optimistically due to its evolution to become more precarious and intensive. In the same vein, Strangleman (2007) contends that the new, short-term, 'transactional' capitalist mindset has paved the way for a fractured and uncertain employment future. Educated workers are more likely suggested to be at the receiving end of a work intensification stick and its associated requirements for continuous career management in response to the highly fluid labour market demands with the inherent risk of underemployment or unemployment (Mason, 2002). Brown, et al (2011) warn for the increasing simplification of especially middle management as a result of 'Digital Taylorism' whereby scientific management principles are deployed in the digital era to standardize and routinize management practice resulting in automation of current human activities. Globally, organizational changes such as downsizing, delayering and increased use of flexible arrangements have been argued to tie to more ambiguous jobs, need for increasing flexibility and the lack of career progressions (Harvey, 2000).

1.3 Changing Career Perspectives

The change in the economic landscape suggests that the traditional career conceptualizations whereby organizationsdominate employment and career progression (Hall & Mirvis, 1995; and Sullivan, 1999) may need revisionsince current career paths are reported to be much more unpredictable (Arthur, et al, 2005; Sook, et al, 2012). This phenomenon has given way to new perspectives on career that are argued to be more appropriate to describe contemporary engagement with employment and patterns in career progression in the context of the emerging economic environment of the years to come (Briscoe, et al, 2006). These new perspectives have been coined as the boundary less career (Arthur & Rousseau, 1996) and the protean career (Briscoe & Hall, 2002). Even though conceptually distinct (Briscoe & Hall, 2002; 2006), both de-couple the career phenomenon from traditional career arrangements closely tied to one or two organizations in a lifetime and point at the individual as the key driver of both the potential and the management of employment and career progression. The protean viewconsiders a double axis approach of value driven and self-directed attitudes whereas the boundaryless view calls for the consideration of a combination of physical and psychological mobility. Bimrose (2009), through her work on career guidance of students in a HE context, points at the different transition strategies and styles in career development. The transition strategies she identifies cover 'the testing options', 'buying time' and 'exploring values', whereby the transitional styles that emerged from her study were titled as 'evaluative', 'aspirational', 'opportunistic' and 'strategic'. Her work further confirms the view that today's decision making on career no longer follows a per se objectively rational process.

The central place the individual holds in these career perspectives, strategies and transition styles requires consideration of socio-economic and structural conditions as influencers on how the labour market is engaged with by different social groups (Collins, 2000; Brown & Helsketh, 2004; Power & Whitty, 2006; Baum, et al, 2008; Lowden, et al, 2011 and Green, et al, 2013). The state of the labout market, access to it and to opportunities potentially mediating such accesse.g. education (Elias & Purcell, 2004; Brown & Helsketh, 2004; Green & Zhu, 2010 and Kupfer, 2011), cultural capital (Ball, 2003) and social capital (Ball, 2003 and Power & Whitty, 2006) cannot be ignored. Brown & Helsketh (2004) in particular make compelling arguments how the shift to the knowledge economy presents particular challenges to labour market access under career and educational paradigms that have seemingly served well in the resource based economy. Even though their discourse mainly concerns managerial employment, they present the challenge for the current and upcoming workforce to be clearly aware of the changed environment and the need for reframing behaviours and expectations in order to be successful. The literature further also suggests a strong influence of public policy in relation to employment opportunity in the new economy (Tomlinson, 2012; Deewr, 2012; Green, et al, 2013 and McQuaid & Lindsay, 2005).

1.4 Public Policy: Career Development Frameworks

Issues around value adding participation of individuals in society and economy have always been a central part of public policy worldwide. Against the backdrop of the new economic realities, governments worldwide have over the last few decades engaged in efforts to improve employment opportunities for its citizens (CEC, 2003; Dearing, 1997; De Weert, 2011; EUA, 2013; Eurydice, 2014; NCDA,

2011; UN, 2001; UNESCO, 2005 and WEF, 2014). The Organization for Economic

Co-operation and Development presented in the mid 90's a strong call for the review

of the labour market regulations in relation to this issue by reference to the

dysfunctional division between employed and unemployed and the need for strategies

focused on increased effectiveness of labour market policy with a special attention to

life-long learning and the human capital perspective (OECD, 1994a, 1994b, 1998).

Sinfield (2001) reports on the influence the OECD has played by the end of last

century on the formation of national policies around unemployment. Reports like the

Robbins report and later on the Dearing report in the UK for instance, formally

opened the conversation at a national and supranational policy level. What is clear is

that from a policy point of view this issue concerns a variety of groups and contexts,

and does not limit itself to first employment upon graduation. The term 'employability'

became the overarching noun to capture the issue, thus representing a highly complex

construct in a context of how individuals can contribute meaningfully, effectively and

purposefully in today's socio-economic environment. In the spirit of life-long learning,

it is evident that one's employability is an ongoing (never ending) work in process that

can be argued to be started very early in the educational career and carries through the

whole working life (Martin, et al, 2009). In such public policy context, the discourse

around employability is inclusive of a wide variety of situations such as

unemployment, career change, education and minority groups to name a few (CEC,

2003; NCDA, 2004, 2011; UN, 2001).

  In terms of career development some of the most prominent national

frameworks are: the Australian Blueprint for Career Development Canadian Blueprint

and the US National Career Development Guidelines which later inspired European

policymakers to develop their own blueprints resulting in for instance the Blue Print

for Careers for England and the Career Management Skills framework for Scotland.

Each of these frameworks echoes Harvey's (2000) contention towards the value of

empowering people to be able to take control over their career and future whereby

life-long learningis considered pivotal. These frameworks furthermore clearly fit with

the new perspectives on career (Arthur and Rousseau, 1996; Briscoe and Hall, 2002).

They also all aim to further inform public policy development, programme

development of education providers and human resource strategy development of

organizations and businesses, reflecting indeed a larger context than one of

employment only.

1.5 The Need for Something else

In light of the above presented views on the future of work, it is clear that the

knowledge economy presents a new reality for its current and future participants

(Harvey, 2000). Peter Senge, in his 1990 work the Fifth Discipline, presented the idea

that the future career would no longer be one that is built on a fixed set of skills but on

a skill set that is adaptable and cross-functional. The challenge lies in the fact that the

new economy demands for a new profile of participants in a new playing field

(Hassard, et al, 2008), whereby the onus lies on the individual to continuously build

competencies of varied nature to sustainengagement with the new realities of the 21st

Century (Clarke, 2008). Belt & Richardson (2005) for example present an example of

how the significant rise of the service industry has demanded different competencies,

commonly presented as 'soft skills' such as interpersonal and communication skills.

Furthermore, change of organizational structures such as flat, more horizontal and

matrix structures (Jackson & Hancock, 2010), increasing "educational and professional

mobility" (Playfoot & Hall, 2009, p.13) and different generations working side by side (Eisner, 2005) require competencies beyond field specific knowledge e.g. refined collaboration and communication competencies, emotional and social intelligence and ability to show autonomy, initiative and organization. Also evident are changes in job roles whereby in the current economy positions may comprise of a wider functional scope within the organization as compared to before. For instance, accounting functions now also cover risk and strategic management (Jones, 2009), Marketing functions include strategic and change management (Tapp & Hughes, 2004) and Human Resource Management involves continuous improvement and talent management (Hyland, et al, 2005). This emergent 'function-creep' (or at times even 'function-shift') requires a broader or perhaps different competency set than the traditional field specific knowledge and technical skills. Peter Drucker also stated that "companies today aren't managing their employees' careers; knowledge workers must, effectively, be their own chief executive officers. It's up to you to carve out your place, to know when to change course, and to keep yourself engaged and productive during a work life that may span some 50 years. To do those things well, you'll need to cultivate a deep understanding of yourself – not only what your strengths and weaknesses are but also how you learn, how you work with others, what your values are, and where you can make the greatest contribution. Because only when you operate from strengths can you achieve true excellence." (Drucker, 2005, p.2) In order to be successful today's economy, Friedman (2005) asserts the need for individuals to refocus their attention on (1) learning how to learn to maintain currency, (2) personal dispositions of creativity and passion, (3) interpersonal and relationship skills and

finally (4) the ability to synthesize towards a view of the big picture as a total of the small.

In the context of schooling the future actors for the 21st Century, this dynamic landscape needs to be recognized and consideredin its full breadth by HE if it wishes to be fit for purpose in producing effective participants for this new economy and society.The discussion around the role of HE in the development of an effective workforce has been around since the 1960's with political attention for theories in this context (e.g. human capital, approaches to manpower, etc). One of the founding advocates of the role HE plays in terms of economic development is undoubtedly the Organisation for Economic Cooperation and Development (OECD) (Glass, 2013). Over the years the responsibility around issues ofemployment have increasingly been placed at the doorstep of HE through narratives around on the one hand a shortage of HE and the need for higher availability (Teichler, 2007) and on the other hand arguments around over-education and the inability of HE to correctly match the requirements of the labour market (Jackson and Hancock, 2010). In this discussion the more 'conventional economics' view argues for the ability of the market to help guide the idea around job requirements where in contrast other fields such as psychology, sociology and education point at more intricate tensions between the world of work and HE.

2. Problem Statement

In the context of the new realities of the 21st Century economy and society, where knowledge holds a central place, the issue of the employability of people is often mentioned as the responsibility of educational institutions since they are tasked

(or at least expected) by society to develop the human capital needed for successful societal and economic progression (Tomlinson, 2012 and Glass, 2013).

Increasing demands by society, government and employers around accountability of Higher Education Institutions (HEIs) (DEEWR, 2010, 2012; Gonzales & Wagenaar, 2005, 2008; Miller & Leskes, 2005; Quality Assurance Agency, n.d) has put increasing pressure on these institutions, particularly concerning the widely reported gap between the profile of current HE graduates and the requirements of the labour market for a workforce that is attuned to the new realities of the 21st Century (Bridgstock, 2009; Jackson, 2009; Jackson & Hancock, 2010; Eurydice, 2014; Green, et al, 2013; Pegg, et al, 2012; Teichler, 2009; WEF, 2014). This profile gap between the new coming workforce and what is sought after by employers is however only one side of the coin that is employability. The intensity of the competition in the labour market due to higher access to (higher) education, its internationalization and the higher mobility of labour have furthermore also resulted in the need for career management competencies that are much more intricate than those of the past (Careers New Zealand, 2012; Tomlinson, 2012; Bridgstock, 2009; and Reichelt & Schreier, 2010). Both dimensions of employability have sparked a significant debate in the literature around purposeful HE and subsequent fitness for purpose (Duderstadt, et al, 2008; Berdahl, et al, 2008; Nussbaum, 2006; Teichler, 2009, 2007 and Tomlinson, 2012). Even though some would argue that the employment-unemployment dichotomy is the crux of the construct, the reality is far more complex and intricate as per how the issue of employability should be considered in the light of current issues around e.g. unemployment, economic development, societal development and education (Teichler, 2009; and Tomlinson,

2012). The construct has been discussed at length in the literature, yet after over two decades of rather in depth investigation, ambiguity remains around what employability is, how it is affected and what can be done in order to improve it (Vande Wiele, et al, 2014; Yorke, 2004; Pegg, et al, 2012; Green, et al, 2013; and Oliver, 2015). This ambiguity obscuresattempts to understand what employability is and hence to find consensus on a definition or to comprehensively unpack it for its influencing factors (EUA, 2013; Green, et al, 2013; Pegg, et al, 2012; Tomlinson, 2012; Drăgan, et al., 2012; Lowden, et al, 2011; BIS, 2011; Ho, 2016; Sung, et al, 2013) The multiple perspectives around employability ranging from a narrow focus on particular skill sets and mere job attainment to more holistic views that assert ideas around relativity, career management and attitudes towards life-long learning further complicate the discussion around how employability can and should be tackled in a HE context (Pegg, et al, 2012; Green, et al, 2013; Oliver, 2015 and Vande Wiele, et al, 2014, 2015a). Furthermore, its context dependent nature, the complexity of its development and assessment in a formal learning environment, and the difficulty of evidencing the realization of employability through HE present not only strong challenges for HEIs to develop employability in its graduates but also to communicate its efforts to its stakeholders (Maher, 2011 and Oliver, 2010, 2011, 2015). Even though various studies have attempted to unpack the construct of employabilityand others have addressed a variety of specific perspectives on employability and HE, no study has addressed the interplay of employability and HE from a holistic point of view i.e. giving consideration to a comprehensive set of influencing factors of employability and an institutional wide evaluation of how this can be effectively addressed (Vande Wiele, et al, 2014). This void, along with strong inertia within HEIs, arguably explains

the persistent difficulties for HEIs in terms of (re) designing approaches to tackle employability more effectively. It is often argued that traditional approaches of HE fall short in their address of preparing for the 21st Century and need to be reviewed in order to effectively tackle this (Yorke, 2004; Knight & Yorke, 2006). Following basic notions of change management (Todnem, 2005) if change is required, there isneed forone or more mechanisms to enable such change. This calls for an organizational development perspective in line with Boulton & Lucas' (2008, 2011) contention of the importance of understanding the full breadth of the HEI - inclusive its context - in order to be able to effectively progress towards actions for change. For development to take place, effective diagnosis of the current state of affairs is crucial, complemented with clear and meaningful articulation of appropriate remedies (Hassin, 2010). This meaningfulness and appropriateness is strongly influenced by contextual factors in which an organization operates such as - relevant for this study - socio-cultural and economic factors. Given the dynamic nature of the context in which employability is situated and the longstanding traditions of approaches to HE as we know it, this calls for HEIs to adopt a learning orientation (following Senge's (1990) Learning Organization proposition) as to find better alignment of its offerings with the current and future realities of the 21st Century, towards the development of an institution wide address of the challenge it is presented with (Maher, 2011 and Oliver, 2010, 2011).

Viewing HE offering as a transformation process from entry level student to employable graduate (Mayur & Johnson, 2014) raises questions around how such transformation process works, what effective mechanisms and structures enable an effective transformation process and how such process can be outlined in order for its

stakeholders to make sense of it, evaluate it and explore valid options for improvement. Under the assumption that employability is a key goal for HE (voluntarily or mandatory), this study is worthwhile and timely considering the current opacity around what employability is, its realization through HE, the lack of a mechanism that allows for the diagnosis of institution-wide practice on the matter and subsequent inability to provide a pathway towards corrective action and more effective practice.

2.1 The Research Questions

In order to be able to diagnose a HEI's address to employability, it is imperative to first have a clear understanding of what such address entails. This gives rise to the first research question i.e. RQ1: How can a Higher Education Institution address Employability?

In light of the quality assurance and accountability context in which employability is a topic that has been given ample attention, there is need for a diagnostic tool able to capture the totality of the transformation process relevant to employability. This gives rise to the second research question i.e. RQ2: How can a Higher Education Institution be diagnosed on its fitness for purpose in terms of Employability?

3. Research Purpose

This study aims to illuminate the construct of employability by considering it from a holistic perspective through investigating the influencing factors of employability and how a HEI can use these to inform its approach towards transforming entry level students into employable graduates. The crux of this study is the proposal of a model that will allow for the evaluation of the current state of affairs

of a HEI in terms of how it addresses employability as a first step towards change and improvement where appropriate. The development of the model will be realized following a Design Science Research methodology usingmaturity modeling principles, since a knowledge artifact of this nature (in casu the forthcoming maturity model) allows for both the evaluation of the current state of things as well as an outline of pathways for improvement towards higher quality outputs. The study proposes the Employability Development and Assessment Maturity Model (EDAMM) as a mechanism to diagnose a HEI on the matter towards better aligning the HEI with the current influencing factors of employability and improve its ability to pursue effective future actions for improvement. The model is developed following an iterative approach of constant interaction between its design, relevant realities and pertinent theoretical underpinnings in order to provide a model that is robust and valid. In the first iteration of development the researcher aims to combine existing literature with current practices in the field. In a second iteration of development, the model will be subjected to validation checks by means of consultation with experts using a Delphi Technique.

4. Significance of the Research

Employability has become a dominating concept in today's economic context in relation to practices around career, public policy and HE (WEF, 2014; Eurydice, 2014; Little & Archer, 2010; Knight & Yorke, 2006; Moreland, 2006; Robinson, 2005). Up to now the manner of evidencing HEIs' effectiveness in addressing employability has traditionally been done by the use of destination data (Bridgstock, 2009). Even though destination data hold a pertinent place in the discussion, more focus must be given towards the process of developing and assessing employability in

a HEcontext (Mayur & Johnson, 2014). The literature shows considerable regard

towards the effectiveness of practices of teaching and learning (T&L) for

employability (Pegg, et al, 2012; BIS, 2011; Butcher, et al, 2011; Eurydyce, 2014;

DEST, 2006; UKCES, 2008, 2010; Oliver, 2010, 2011, 2015) and some attention to

the role of career counseling (Bimrose, 2009; Bimrose, et al, 2005, 2011; Bridgstock,

2009; Gunn & Kaufmann, 2011; Nicoletti & Berthoud, 2010 and Schiersman, et al,

2012) , however, studies that consider a HEI in its total breadth of activities relevant to

employability are scarce to none existent (Maher, 2011). If this remains unaddressed,

HEIs risk continuing their address of employability in ineffective ways, through

approaches that are ad hoc or developed in isolation from the wider institutional

context and the socio-economic reality.

This study is significant as it makes three valuable theoretical and two

practical contributions:

A first theoretical contribution concerns its attempt to illuminate the up to now

remaining opacity around the construct that is employability, by comprehensively

unpacking and meaningfully aggregating the current literature.

A second theoretical contribution is the development of a model that reflects

the complexity of the HE process to address employability by means of identifying

and qualifying critical activities that are relevant to employability development and

assessment at an institution wide level. This contributes to the body of knowledge

around effective HE practices for employability byinvestigating a variety of

operational sub domains of HEof both academic and non-academic nature.

A third theoretical contribution lies in the attempt to further validate the methodology applied in this study for maturity modeling and thereby strengthening the position of Design Science Research as a rather new methodology.

The first practical contribution surrounds the value of maturity modeling as a diagnostic tool with inherent power to inspire for improvement. Maturity modeling has been widely used for diagnosis, quality control and improvement in a variety of fields inclusive of HE, but has been at best limitedly used to address issues around employability. By means of developing an expert validated model ready for testing, this study provides a practical solution for a dire need in today's HE landscape.

A final practical (and arguably also theoretical) contribution of this study is that it will strengthen the use of the Delphi Technique as a methodologically sound mechanism to validate (maturity) models by means of the deployment of this method in a purposeful manner.

5. Personal Motivation

The topic of employability carries my personal interest for a number of reasons. Personally i have and continue to experience the need to sharpen my own employability in order to keep currency in an international professional setting. This has become evident as a result of my formal educational formation, my current career path and further aspirations. At the start of my career as a HE educator, reflecting on my own HE experience was the strongest influencer of my approach to T&L. Realizing the potential impact that education in general and HE in particular has on individuals' employability and their expectations in this context, has sparked a profound interest in the search for effective approaches to prepare learners for the world of work of tomorrow and beyond. Having been exposed to and involved in a

variety of quality assurance exercises in HE through institutional self-evaluations, external validation audits and both national and international accreditation inspections, my understanding of the importance and complexity of a HEI as a whole has become more acute.

Throughout my last five years in the field of HE, I have experienced how both graduates' employability and the totality of institutional factors are intricately intertwined. I have come to the realization that the effective orchestration for the latter for the former is enormously challenging, yet certainly not impossible. The specific inclusion of employability in the current rhetoric of HEIs when profiling themselves towards their target audience has become more and more apparent. Rhyming such rhetoric of the espoused with the practice of infusing the construct of employability in a HE learning journey can be done in a variety of ways of which some are arguably more sophisticated than others. The search for 'silver bullets' to address this issue is unwise to say the least, yet general principles that span across a variety of contexts can certainly be identified. Being part of an institution that aspires differentiation from its competitors particularly on the basis of claims around graduate employability, has driven me to take increasing interest in the matter of how to proverbially "walk the talk" in the context of linking employability with purposeful HE. Being at the forefront of introducing employability in the national HE system where I reside, the issues highlighted in this study are directly relevant to my professional experiences and my personal belief in the value that employability holds for learners and institutional competitiveness alike

CHAPTER 2

LITERATURE REVIEW

"Reading, after a certain age, diverts the mind too much from its creative pursuits. Any man who reads too much and uses his own brain too little falls into lazy habits of thinking."

1. Employability

"We are the only species on the planet without full employment. Brilliant."

1.1 The History of Employability

Before evaluating the efforts made in the literature to define employability, it has merit to sketch a short history of the construct, in order to better understand its origin and current conceptions. The work of Gazier (2001, 1998a, 1998b) presents a very concise description of the overall evolution of the construct since a century ago up until the late 90's. It describes its evolution through three waves of perspectives, in which seven operational conceptual versions of employability are identified. The first wave emerged in the early decades of the 20th Century and was mostly concerned with the simplistic distinction between being 'employed' and 'unemployed', leading to the dichotomic employability perspective. Useful as it may be, and a fundament to public policy around economic activity and welfare, the dichotomic perspective is highly simplistic and does not do the complexity of the construct justice, nor does it allow for evaluation of the underlying drivers and the prevalent context. Around the 1960's a second wave emerged, whereby three versions of conceptualization gained popularity. The interest in the gap between the labour market demand and the individual's ability gave rise to socio-medical and manpower policy employability perspectives whereas a radical alternative to these two, flow employability, was

constructed on the basis of labour market demand, macro-economic change and the economy's absorption rate. These 'second wave perspectives' tried to integrate some sense of context and influencing factors around employability recognizing the value of unpacking the construct beyond the dichotomic view. A third wave of perspectives found its bearing at the turn of the 80's to the 90's and can be argued to still hold momentum today. This wave produced an additional three views i.e. labour market performance employability, initiative employability and interactive employability. These respectively focus on production outcome, individual responsibility and individual adaptation to the context which one aspires to be or remain a part of. The view of interactive employability is arguably the most contemporary and will be the overarching perspective that guides the remainder of this work since it allows for the introduction of the wide variety of influencing factors both at the level of the individual and the context in which the individual operates. Interactive employability can be described as building on the view of individual initiative and personal responsibility, yet with the additional recognition that the environment in which the individual operates - and other actors within that - make employability a relative construct rather than an absolute one (Brown, et al, 2003a; Clarke, 2008).

1.2 Employability Defined

Up to date employability has been found to be a much more ambiguous construct than one would intuitively anticipate (Sung, et al, 2013). This section will discuss the difficulty in definingemployability and will attempt, by presenting a variety of definitions, models and frameworks, to construct a working definition appropriate for this study. Review of the literature shows that there are generally two main approaches to defining employability i.e. a narrow and a holistic one. The

definitions that follow the narrow view tend to focus on what is referred to as elements internal to the individual referred to as knowledge, skills, attributes or competencies. The more holistic perspectives on the other hand adopt a much wider view additionally considering other factors that make up and influence employability (Lowden, et al, 2011). For this study the holistic view is deemed more appropriate because the position of HE in this context - discussed in detail later in this work - will evidence that the narrow view is too limited for a comprehensive discussion of a HEI's efforts to effectively forge employability in its graduates.

1.2.1   Critiquing the Narrow View of Employability

Hillage & Pollard (1998) described employability as being "about having the capability to gain initial employment, maintain employment and obtain new employment if required". The UK government presents employability as "the development of skills and adaptable workforces in which all those capable of work are encouraged to develop the skills, knowledge, technology and adaptability to enable them to enter and remain in employment throughout their working lives" (HM Treasury, 1997). The Confederation of British Industry (CBI) (1999) defined employability as "the possession by an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realize his or her aspirations and potential in work ". Kubler & Forbes (2005) suggest employability to be comprised of cognitive skills, generic competencies, personal capabilities, technical as well as critical evaluation and reflection abilities, business acumen and organizational awareness. Such definitions, as much as they recognize a certain influence of policy and context, mainly place the individual's so called

knowledge, skills, attributes or competencies at the center of the construct and are in the literature suggested as the narrow view on employability (Lowden, et al, 2011).

Brown, et al (2003a) critique such approaches as ideological due to their poor consideration of the labour market and the wider context as additional influencers of employability. They further point at the relativity of employability to the labour market must give consideration to the employability of fellow applicants for employment. They hereby extend on the nature of employability to one that should not be seen as absolute in any given context, and re-define employability as "the relative chances of acquiring and maintaining different kinds of employment" (Brown, et al, 2003a, p.111). This evolution of the definition, as much as it may seem a matter of semantics, is a fundamental one. The inclusion of the relativity opens up a much wider perspective on the topic and allows for further unpacking of the complexity of this construct as will be evidenced further in this review. The Canadian Labour Force Development Board (1994) used the following definition: "Employability is the relative capacity of an individual to achieve meaningful employment given the interaction of personalcircumstances and the labour market" (p. 8).In line with Brown et al (2003a) it recognizes the relativism inherent to the construct and furtherstrongly points at an actionable component through the inclusion of interactivity in its definition. Even though Hillage & Pollard (1998) go on to state that employability concerns "the capability to move self-sufficiently within the labour market to realize potential through sustainable employment. employability depends on the knowledge, skills and attitudes they (the individual) possess, the way they use those assets and present them to employers and the context (e.g. personal circumstances and labour market environment) within which they seek work" (p. 12), this was mentioned more as a side

note rather than being formally included in their definition, and thus remaining focusedon factors internal to the individual.

Aside from the critique on the narrow focus of some definitions, a second important note to make is that the literature shows lack of agreement on what is meant by 'skills' (Yorke, 2004; Hinchliffe, 2002; Sung, et al, 2013 and Mehaut & Winch, 2012) and is critical over its use as pivotal to employability (Holmes, 2001, 2006; Bridges, 1992; Wolf, 1991). It is however recognized that the use of the word 'skills' allows for easier engagement with employability by students, individuals and employers (Peg, et al, 2012) whereby the term skills is seen as an easily understood warrant towards employability (Holmes, 1999). The use of 'employability skills' has furthermore lead to a variety of approaches to describe employability as reported by Hillage & Pollard (1998). They note that its use may range from the indication of a set of minimum required skills (threshold skills) on the one hand to on the other hand cover a wide range of knowledge, skills and attributes as a mix of discipline and work relevant skills. Boyatzis (2008) calls for a division of personal skills into threshold and distinguishing skills whereby distinguishing skills are used to identify high performers. Nagarajan & Edwards (2014) present the difference between 'skills' and 'attributes' as a matter of practicality, whereby skills are more practical and attributes address something broader. To describe employability, the debate around 'skills' (and for the same matter 'attributes') is clear to be problematic. This issue of misunderstanding terminology in the context is furthermore highlighted in the work of Mehaut & Winch (2012) to be equivalently problematic for the terms 'competence' and even 'knowledge' in a context of evaluating a person's capacity to act in a professional (i.e. work related) capacity as a result of an educational experience. This debate is

found to be fruitless in the context of this study towards the progression of HE mechanisms to enhance employability as it is in many cases a matter of semantics rather than anything else and can be addressed by clear operationalization. For this study employability will be deemed more appropriately addressed through the use of the term 'competency' in line with the work of Winterton, et al (2006) who presented a unified typology around competence to illuminate the confusion in the debate as will be elaborated on more in later sections. In order to describe the existing models and frameworks in upcoming sections of this literature review, the terminology skills, attributes, abilities and the like will be used as they are used by the authors that will be referenced, yet the reader must be vigilant not to dwell too much on the 'correct' use of the terms in context.

1.2.2   The need for a wider view on **Employability**

Based on the call of Harvey (2001) for a clear definition on employability, Yorke (2004) presented what is up to date the most widely cited definition of employability in the academic literature whereby he states employability to be the achievement of "the skills, understanding and personal attributes that make an individual more likely to secure employment and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy" (Yorke, 2004, p.6). This definition recognizes the wider context - rather than solely the individual's competencies - as potentially influencing one's employability, however this can be argued to be rather implicit in its statement.Research in Northern Ireland (Dhfete, 2002) described employability as "the capability to move into and within labour markets and to realize potential through sustainable and accessible employment. For the individual, employability depends on: the knowledge, skills and

attitudes they hold; the way personal attributes are presented in the labour market; the

environmental and social context within which work is sought; and the economic

context within which work is sought". Fugate et al (2004) defined employability as

"work specific active adaptability that enables workers to identify and realize career

opportunities … facilitates the movement between jobs, both within and between

organizations. Although employability does not assure actual employment it enhances

an individual's likelihood of gaining employment". More recently Bridgstock (2009)

calls for the consideration of notions around career management in the definition of

employability as "an ongoing process of engaging in reflective, evaluative and

decision-making processes using skills for self-management and career building, based

on certain underlying traits and dispositional factors, to effectively acquire, exhibit

and use generic and discipline-specific skills in the world of work". These definitions

are clearly considering a much wider context to employability and furthermore align

very well with the initiative and interactive perspective as referred to in the

contemporary views around employability. Furthermore, a specific focus on the career

management side of things rather than on performance at work can be identified. This,

next to the relativity of the construct, is another important dimension to the construct

that will show to be pivotal in the argument that is made later in this study. Therefore,

moving forward, a combination of Yorke's definition (2004) and the career

management perspective to employability is chosen to be most appropriate for the

further development of this study since, combined, they recognize the wider context

of influencing factors and present a dual dimension to employability that considers on

the one hand fitness for employment, and other hand fitness for career development.

This combination also recognizes the need to consider the individual as well as the

wider socio-economic context and suggests an evidence based approach to the evaluation of employability in terms of achievements and not necessarily in terms of job attainment per se as compared to the more dichotomic view of Hillage & Pollard (1998) that suggests the equation of employability to de facto employment more than anything else.

At current Ho (2016) reports that there is still opacity surrounding a clear definition of employability and Pegg, et al (2012) argue for the value of frameworks and models that indicate influencing factors to employabilityover the search for an all-inclusive definition. Extensive literature review has identified a total of 12 attempts to unpack the construct in relation to influencing factors under the form of frameworks and models. Four of the attempts are more general in nature, whereas the remaining eight have been developed specifically in or for a HE context. The followingsection will first present the four attempts to unpackemployability in a more general way and then address the remaining eightthat are situated in a HE context.

1.2.3   Conceptualizations of Employability

1.2.3.1   General Frameworks

Hillage & Pollard (1998) presented a framework consisting of four main factors as in fluencers of employability: Employability Assets, Presentation, Deployment and Context. Employability assets consider employability skills and attributes which are further divided into baseline assets (essential), intermediate assets (job specific and generic) and high level assets (more complex and higher order). Presentation of the employability assets by means of securing an appointment to negotiate an appropriate position is considered as the next influencing factor, which links to the third factor of deployment, concerning career management and job search

skills. The deployment factor suggests action that is taken driven by awareness of oneself and opportunities in the labour market. Finally, the framework mentions the *context* factor which concerns the labour market and personal circumstances in which the individual operates. The first three factors consider mainly the individual whereas the last considers everything else that may have impact on the individual. The choice of context is argued to be somewhat of a shortcut to closing the discussion around the topic, and leaves this framework still focusing mainly at the individual, supply side of the discussion (Lindsay, et al, 2003) rather than more extensively exploring the demand side of things.

Fugate, et al (2004) presented a framework around employability that focuses on active adaptability to result in the mobility of the individual in an employment context. The active adaptability finds its conceptual underpinning in the works of Ashford & Taylor (1990) and Crant (2000) on active adaptation and proactivity, whereby the argument can be made that, in line with the increasing onus on the individual in their career development (which will be discussed later more in detail), those who adapt more easily (and even proactively) to the changing economic environment, hold higher potential for employability resulting in higher performance (Crant, 1995) positive career outcomes (Seibert, et al, 1999) or in the least the reduction of anxiety (Saks & Ashforth, 1996). Some of the more recent literature suggests however a paired responsibility around career development within an organizational context, whereby both individual and organizational initiatives around career management hold importance towards career outcomes (De Vos, et al, 2009, 2011). The individuals' adaptability is dependent on access to information abouttheir environment, freedom of mobility, willingness to change and finally

internal attributes such as optimism and self-efficacy (Fugate, et al, 2004). This firmly

aligns with the contemporary career perspectives of the boundaryless (Arthur &

Rousseau, 1996) and protean career (Briscoe & Hall, 2002) that place primary

importance on individuals' actions in shaping their career, which will be elaborated on

further in this literature study. Fugate, et al. (2004) approach to employability is a

psycho-social construct that concerns the synergy of (1) Career Identity (2) Personal

Adaptability (3) Social and Human Capital. Career Identity, connecting employability

closely to social identity (Holmes, 1995, 1999, 2000,2001, 2006) and hence making it

subjective (Brown, et al, 2003a; McArdle, et al, 2007; Fugate, et al., 2004; Rothwell,

et al, 2009 and Van der Heijde & Van der Heijden, 2006), surrounds the individual's

question of "Who am I and who do I want to be?" and acts as a driver to engage with -

or even create - opportunities in line with personal or professional aspirations

(Ashforth & Fugate, 2001). This must further be recognized to be a long term concept

that may change over time through meaning assimilation of past, present of future

(Meijers, et al, 2013). In terms of the forming of Career Identity, three styles have been

identified (Berzonsky & Adams, 1999): information oriented, normative oriented and

avoidance oriented. Ashforth (2001) found the information style, in which people are

proactive in the search for and the use of information relevant to the self, the most

positive in job and career contexts, suggesting that people who adopt such style are

better prepared to deal with the rapidly changing economic and organizational

environment of the 21ste century. Ramli, et al, (2010) also suggested the importance of

the right attitude and self-image in relation to career identity. Thisfurther ties in well

with the second dimension of Fugate et al's construct, Personal Adaptability, whereby

personal adaptability is equated to willingness and ability to change and consequently

its positive impact on organizational performance, personal productivity and career success (Crant, 2000 and Chan, 2000). It is important to note that the personal adaptability even though dependent on personal dispositions needs to be projected externally to be effective, hence giving this an actionable dimension. Without presenting an exhaustive list of personal dispositions someexamples are optimism (Carver & Scheier, 1994), propensity to learn (Ashford & Taylor, 1990), openness (Wanberg & Banas, 2000) internal locus of control (Wanberg & Banas, 2000) and generalizable self-efficacy (Ashford & Taylor, 1990). The final dimension of this framework finds ground in the fact that both organizations and individuals invest in social and human capital with the eye on return on their investment (Dess & Shaw, 2001). Social capital revolves around the goodwill situated in an individual's social network, the conferring of information and the influence of the information-holder in the network (Adler & Kwon, 2002). Network strength (Higgins & Kram, 2001) and network size (Seibert, et al, 2001) are critical factors for high yielding social capital. Solidarity and reciprocity are two valuable outcomes of a strong network (Adler & Kwon, 2002 and Higgins & Kram, 2001). Social capital shows its effectiveness in terms of employability through job search using formal or informal networks to identify and even secure employment or career opportunity. In terms of human capital, education and experience have been found to be very strong indicators for career success (Cardoso, et al, 2014). In relation to employability, human capital generally represents the ability to meet occupational requirements in terms of performance expectation (Portes, 1998) and Fugate, et al (2004) furthermore suggest the positive potential of employability in dealing with job loss and displacement on the back of work by Latack, et al, (1995) model whereby the exploration and conscious

appreciation of the construct by the individual allows for positioning or repositioning him/herself more strategically and responsively in such cases. The overall proposed approach by Fugate, et al. (2004) was further investigated and confirmed by McArdle, et al. (2007) noting the positive impact of employability on job loss and job search, the positive effect of career identity on employability and the confirmation of the positive relationship between self-esteem and employability.

Mc Quaid & Lindsay (2005) investigated employability in search for a more holistic framework that would allow a counter movement against the tendency to narrow down the employability of an individual to a set of employability 'skills'. Even though their perspective is mostly oriented towards public policy and unemployed job seekers in the UK, their frameworkserves very well as a basis to better understand employability and is the more comprehensive one to be found in the literature in terms of considering a wide variety of influencing factors.

Individual Factors

- Employability Skills and Attributes
- Demographics
- Health and Well Being
- Job Seeking
- Adaptability and Mobility

Personal Circumstances

- Household Circumstances
- Culture
- Access to resources

External Factors

- Macro and Micro Economic Factors
- Enabling Policies
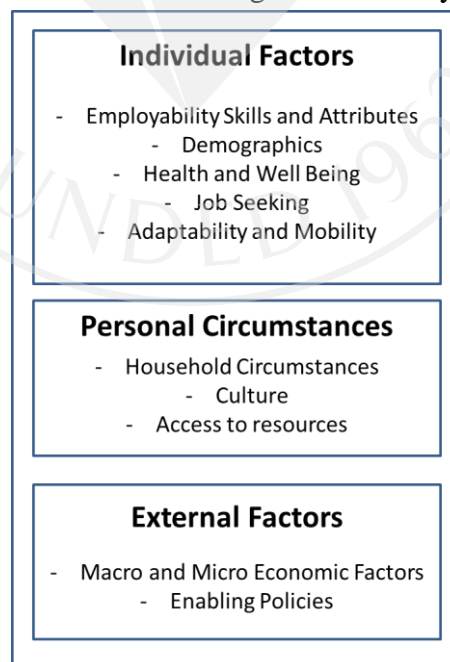
Figure 1: McQuaid and Lindsay's Employability Framework

The development of this framework was particularly driven by the critique of the continued focus on the supply-side factors and more in particular the individual. This focus has been widely contested in the literature in relation to problems with equity, equality, physical disadvantages, or a lack of holistic consideration in relation to influencing factors to employment (Millar, 2000; Webster, 2000; Lakey, et al, 2001; Adams, et al, 2002 and Dean, et al, 2003) and led to the framework taking into account the barriers to employability of both personal and external nature. This introduced the identification and impact of demand side factors to the model as described by Kleinman & West (1998) and Evans, et al, (1999) including elements such as employer attitudes, availability and quality of education and training, support for disadvantaged job seekers, the influence of tax-benefit systems and the supply of appropriate jobs. In construction of the framework, McQuaid and Lindsay built strongly on Hillage and Pollard's framework (1998), yet extended their 'context' factor resulting in three main factors (Figure 1): individual, personal circumstances and external factors. The individual factors consider employability skills and attributes, demographic characteristics, health and well-being, job seeking and finally adaptability and mobility. The personal circumstances are categorized as household circumstances, work culture and access to resources. Finally, external factors are divided into demand factors and enabling support factors.

Cai (2012a) presents a conceptual framework that tries to create clarity around how employers view the value of graduates as future employees by means of considering initial signaling effects (Spence, 1973) private and public learning (Farber & Gibbons, 1996) and other exogenous factors (Burns & Flam, 1987). This framework was developed to add value to HEIs in terms of how they can influence the perception

of employers but is very much viewed from an employers' perspective and is therefore considered as a general framework. It further holds an international rather than local flavor to it, but the principles can be considered general enough to be transferable to a local context. Using human capital theory (Becker, 1975) and job market signaling theory (Spence, 1973) education is presented as useful for individuals to signal their potential value to employers but argued to fall short in relation to being workable in practice (Kjelland, 2008) since it views educational output as something that can be measured and identified objectively. The work of Bailly (2008) who posits that employers form their idea around graduates' abilities based on past performance of employees that hold similar credentials, is one fundamental part of (Cai, 2012a) framework and complements the use of human capital and signaling theory. Bailly (2008) work was however realized to fall short in its full ability to indicate the perception due to its individual nature of private and public learning (Farber & Gibbons, 1996) giving no consideration to social learning or other exogenous factors (Cai, 2012b). Institutional theory is used In order to fill the shortcoming of (Bailly, 2008) model and formalize a more comprehensive framework by means of recognizing not only employers' personal experience of past performance of employees, but also other factors such as socio-cultural, normative and regulative elements that are partly formed on the basis of the institution these employers are part of (Scott, 2008; Burns & Flam, 1987 and DiMaggio & Powell, 1983). This leads to a framework as presented in whereby the employers' belief systems that guide their decisions on recruitment resulting in performance outcomes are influenced by a variety of factors. Through public and private learning (also referred to as system and actor structuring), formation of initial signals (as part of system structuring) and

exogenous factors (such as specific economic and market conditions, the larger
cultural environment in which employers operate as people and the particular
characteristics of the company) the employers' view on the individual is shaped.
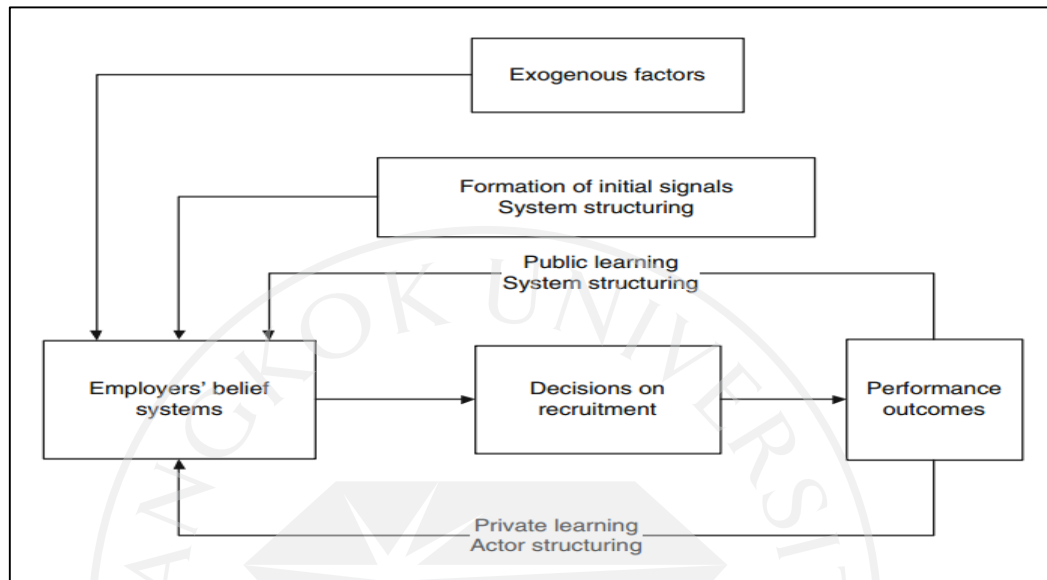
Figure 2: Factors and Mechanisms Affecting Employers' Beliefs

1.2.3.2 Models for employability with a HE context

1.2.3.2.1 USEM Model

Yorke & Knight (2006) presented the USEM model that
approaches employability from a more scientific way, in order to appeal more to HE
practitioners by means of a more familiar frame of reference. The acronymic name
refers to the four components that the authors suggest for consideration:
Understanding, Skillful practice in context, Efficacy beliefs and Metacognition
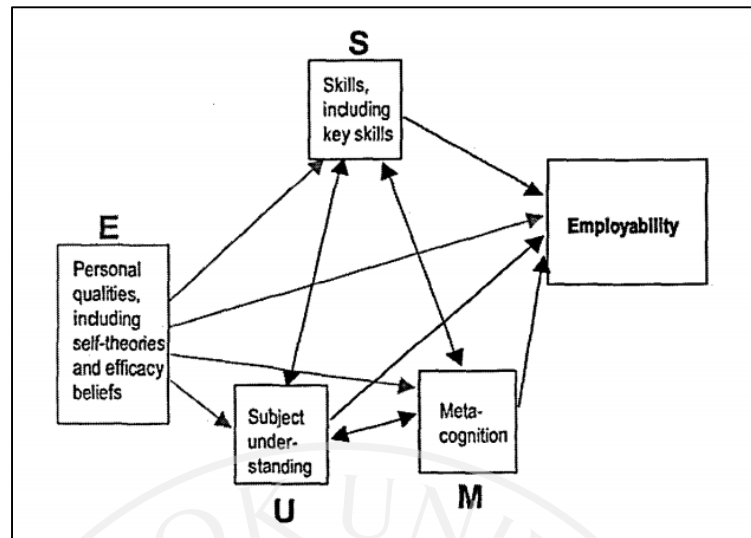
Figure 3: USEM Model

The model elaborates on the definition of employability by indicating the
importance of understanding the world in general and the world of work in particular,
discipline relevant or generic skillful practice, a range of personal qualities, self-
theories and attributes, and finally the capacity for reflection and self-regulation.
Yorke & Knight (2006) furthermore argue that these components are interrelated. Even
though in theory the model holds a lot of potential to relate to academia, Pegg, et al,
(2012) report on the lack of adoption of this model in HEIs. This may be attributable to
the model giving consideration to a rather wide variety of elements that go well
beyond the content specific theory that is typically presented in an educational setting
and thus presenting challenges around how to address all of these factors.

1.2.3.2.2 Career EDGE Model

Darce-Pool & Sewell (2007) presented a more
practical model for employability in order to "explain the concept of employability …
to students and their parents … [and] to be a useful tool for lecturers, personal tutors,
careers advisors and any other practitioners involved in employability activities" (p. 5-

6). They present the individual's psychological state of the self as the directly influencing factor of employability. This modelconsists of 5 foundations (1) Career development learning, (2) Work and Life experience, (3) Degree subject knowledge, skills and understanding, (4) Generic skills and (5) Emotional intelligence. The model further indicates that, if students are able and supported to evaluate these experiences and critically think about them, this will have an enhancing impact on their self-efficacy, self-confidence and self-esteem, whereby the former two are also seen to impact the latter, ultimately creating favourable prospects for employability. The model is presented in Figure 4 showing the consideration of a wide variety of underpinning factors, yet its approach to placing a psychological self-conceptions of confidence, esteem and efficacy as the final enabler of employability can be critiqued to ignore a sense of career direction for the individual as referred to in Holmes' (2000, 2001, 2006) notions around (graduate) identity.
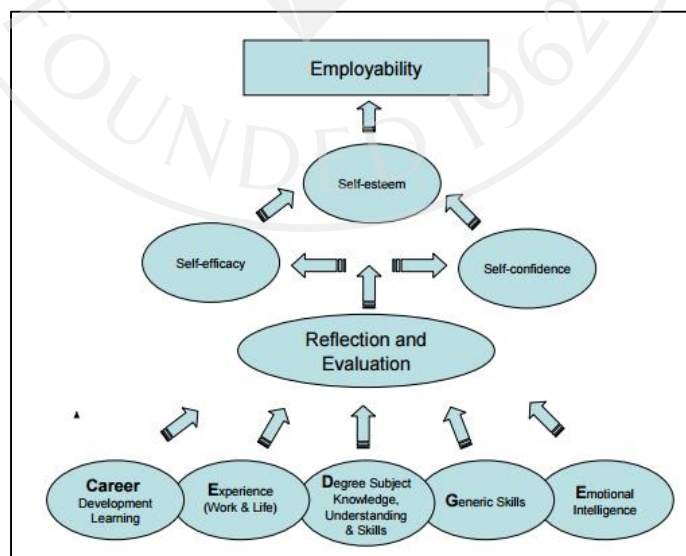
Figure 4: Elements of Employability

1.2.3.2.3 SOAR Model

Kumar (2007) presents the SOAR model as a self-development model focusing on Self, Opportunity, Aspirations and Results. This model is useful in its potential ability to enable students to value and exploit their learning in relation to their personal, intellectual and future career growth. Kumar further explains the model in its links with the need for self-actualization and personal development of Maslow's hierarchy of needs (Maslow, 1970) through behavioural competencies that are argued as conducive for success in their study as well as life-long learning (Kumar, 2009). The model contends the synergistic effect of purposeful interaction of the self with the world of opportunity, creating positive aspirations in relation to the results that need to be achieved. Practically, the model involves self-assessment by students, or as presented by Kumar (2009) as self-MAPping, whereby he contends that self-awareness derives from Motivation, Abilities and Personality and their application to learning tasks.

1.2.3.2.4 Self-Perceived Employability

Rothwell & Arnold (2007) proposed a model on employability that considers a variety of contextual factors that concern the student, the university and the external labour market from a self-perceived perspective of the student (Table 1).

Table 1: Self-Perceived Employability Factors

Student	academic performance	engagement with studies
	confidence in ability	strength of the university brand
	ambition	awareness of the labour market opportunities
University	reputation of university with employers	status of the field of study
Labour market	demand for people in the field	

At the student level they consider the academic performance, level of engagement in studies, confidence in ability, ambition, perceived strength of the university's brand and awareness of the opportunities in the labour market. At the university level the model considers the reputation of an individual's alma mater as perceived by the employers and more specifically the status of the field of study. Finally consideration is given to the labour market demand for people in particular fields as a last factor influencing employability. Rothwell, et al (2008, 2009) advanced this into a 'student self-perceived employability matrix' presented in Figure 5.

	My University			
Self belief	1.My engagement with my studies and academic performance	2.My perception of the strength of the university's brand	3.The reputation my university has within my field of study	**My Field of study**
	8.Myconfidence in my skills and abilities	My ambition	4.The status and credibility of my field of study	
	7.My awareness of opportunities in the external labour market	6.My perception of the state of the external labour market	5.The external labour market's demand for people in my subject field	
		The state of the external labour market		

Figure 5: Student Self-Perceived Employability

The idea of self-perceived employability is further also used by Van der Heijden, et al, (2009) but in a context of competency development of employees in organizations and its relation to employability, and by De Vos, et al, (2011) in relation to career success. In the context of adult learning, it can be argued that there areparallels to HE since both situations revolve around adults (currently employed or not employed) engaging in a process to develop competencies towards employability. De Vos, et al, (2011) discuss a distinction between marketability and employability whereby they link marketability to an evaluation of the outcome of being employable (career success) yet view employability as the potential of being valuable, if necessary. Overall, without elaborating onfurther detail, there is agreement that employability holds utility towards career success (Forrier & Sels, 2003; Hall, 2002; Van der Heijde & Van der Heijden, 2006).

           1.2.3.2.5 Graduate Identity - Claim Affirmation Model

                 Hinchliffe & Jolly (2011) as strong proponents for HEIs to stay away from approaching employability in terms of skills, assert the preference for a focus on "graduate identity and well-being through the provision of opportunities for functioning" (p.582). Graduate identity is a term introduced by Holmes (1999, 2001, 2006) building on Jenkins' (1996) use of identity, to understand the actions of the individual in the world through his Claim Affirmation model of identity as presented in
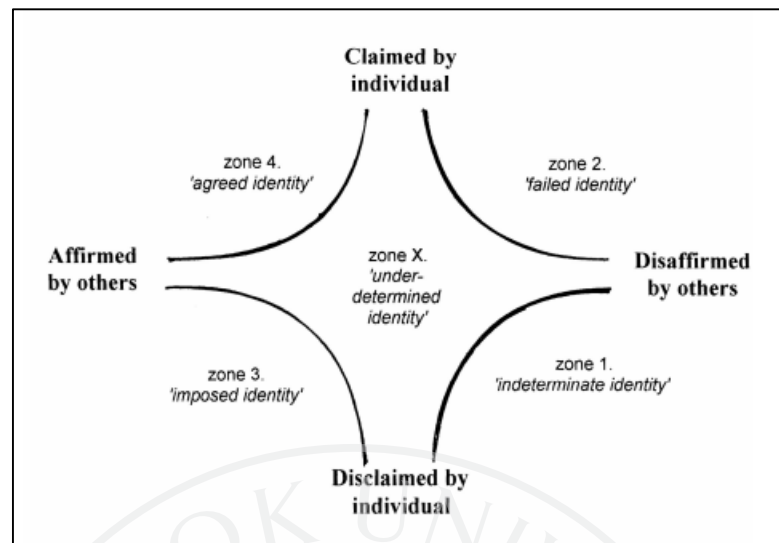
Figure 6: Claim Affirmation Model

This model makes sense in an employability context whereby the individual

and its social, professional or even cultural context constantly exchange claims,

disclaims, affirmations and disaffirmations about employability. Since it has been used

as a building block for the Graduate Identity context, the model is chosen to be

presented in this section, even though it holds equal potential in the more general

attempts to unpack employability.

The notions around career identity held by aspiring professionals has been

build on by O'Leary (2012, 2013) who suggests that educational providers should

adopt an employability index as a result of accumulated knowledge (referred to as

content), having an ability to apply this knowledge (referred to as capability), having

appropriate personal qualities in a professional context (referred to as character) and

fitting with an identified professional role. This index gives way to the development of

an employability strategy matrix allowing the outline of a pathway towards becoming

employable for an aspired role by means of enhancing ones content, capability,

character and/or fit with the identified role.

1.2.3.2.6   Systems oriented student centric approach

Mayur & Johnson (2014) claim that importance must be given to three main concepts: student readiness to be transformed, the configuration of the learning environment and programmer content and execution. They approach the process of student-graduate transformation by means of presenting it like a system with four subsystems (input, process, output and feedback) whereby the student is placed central (Figure 7).
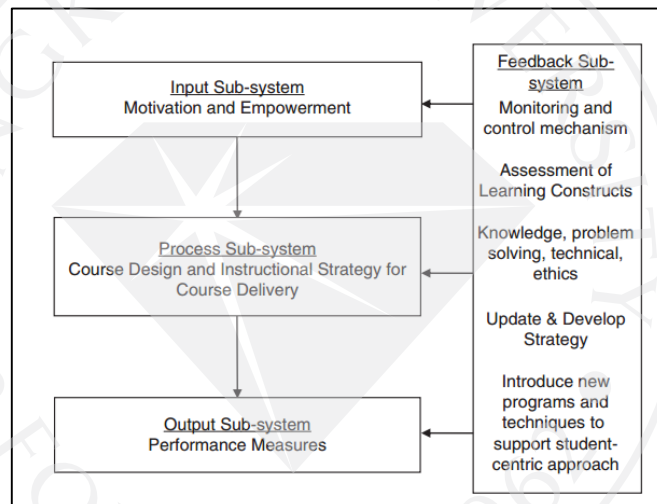
Figure 7: Systems Oriented Student Centric Approach

At the input subsystem level, they note three critical elements: intellectual capability, motivation to learn and empowerment to learn. Careful selection of input (i.e. students) on the one hand, but more importantly careful consideration for the maintenance and development of the aforementioned elements, are argued to be vital for the potential success of a programmer of study. The second sub-system, the process, is considered as the most important to the transformation process and consists of value adding activities around the learning programmer and student

development and support through appropriate course design and instructional strategy

for course delivery. The learning programmer must be developed in a logical manner,

for which reference is made to Bloom's Taxonomy approach in relation to the

cognitive domain, resulting in a hierarchical approach of four developmental phases

around discovery, critical thinking and reasoning, situational skills, and synthesis

skills. A third activity that is given importance in the process sub-system is

performance assessment, whereby the programmer is evaluated on its result of student

learning. The output sub-system contains performance measures to indicate how well

the HEI has been able to deliver on its promise. In the context of employability, they

distinguish two performance measures: employment upon graduation and preparation

for continued learning. Both, they contend, are fully dependent on the judgment of the

talent market (consisting of employers and institutions for further learning). In parallel

to each of these three subsystems, a feedback system is suggested in order to guard for

the efficiency and effectiveness of the transformation process. In this feedback

process the expected competence of the student as per the talent market is compared

with the actual competence of the student in order to identify gaps, review strategies

and take corrective action to close the gap. This feedback system is, even though they

acknowledge the impossibility of a 'one size fits all solution', dependent on three

important features in the context of employability: (1) focus on increasing academic

and career success, (2) a dual function to inform the design of the learning programmer

on the one hand and to effectively communicate purpose and performance expectation

to all those involved in the transformation process on the other hand and (3) the

closing of the loop for each of the integrated sub systems. Even though they present

some generally interesting concepts and relationships between a variety of actors and

clearly point to importance of the preparedness for transformation, it does not present a detailed record of what the indicators are that can be measured and how exactly the feedback mechanisms would practically operate.

1.2.3.2.7 Employability Factors

Finch, et al (2013) present a framework of 17 employability factors that collapse into five categories from the perspective of employers towards the hiring of new graduates. The indication of these categories and underpinning factors can inform HEIs and students or graduates thereof, how to better align themselves with the demand side of the employability equation. For HEIs this concerns the development of appropriate curricula, whereas for the students and graduates it can support the development of frame of reference to present themselves in the most relevant manner when applying for a job. The composite categories that the study identified are: soft skills, problem solving skills, functional skills, academic reputation and pre-graduate work experience. Soft skills consider non-academic skills presumed useful in a variety of work setting (Chamorro-Premuzic, et al, 2010) such as communication skills, professionalism and interpersonal skills. Problem solving skills are often referred to as higher order thinking skills. As a competency, problem solving has been reported to be the best predictor for a variety of occupations due its relation to intelligence (Scherbaum, et al, 2012). This category covers the notions around creativity, critical thinking and adaptability. The third composite category of employability influencing factors is functional competencies. This category covers job specific competencies, job specific technical skills, knowledge and software. These are particularly more context sensitive than problem solving or soft skills. Pre-graduate experience can include in-programmer-developed-experience or experience the student

may have obtained outside the formal schooling context as part of his career progression. Closely related to pre-graduate experience is the construct of professional confidence, which Brown, et al (2003b) alsoargue as a good indicator of employability. The fifth composite category of employability influencing factors is Academic reputation. Chevalier and Conlon (2003) report on the intuitive notion that the academic reputation of a specific educational institution or a category of institutions may enhance its graduates' employability. Three levels of influence are presented: institutional reputation (Alessandri, et al, 2006; Capobianco, 2009), programmer level reputation (McGuinness, 2003) and academic performance (Ng, et al, 2010; Rynes, et al, 1997).

1.3 Aggregating the Influencing Factors

For the purpose of this study, it is deemed appropriate to aggregate the previous literature review on employability to conclude this section of the literature review with the chosen operationalization of the construct.

With the eye on the development of a comprehensive diagnostic mechanism, this will be done by means of consolidating all relevant factors in three categories that have emerged: (1) factors intrinsic to the individual, (2) factors external to the individual and (3) factors of actionable nature with regards to the individual and the external environment (Vande Wiele, et al, 2014). This approach is an adaptation of the framework presented by McQuaid & Lindsay (2005) yet extends beyond the factors that this model includes in the three categories it proposes. The adaptation lies in the fact that the individual factors of the original framework are inclusive of actionable elements, which for the purpose of this study will be considered separately because the current literature indicates the importance of considering

an actionable dimension in the HE-employability context through experience and engagement (Hall, et al, 2009; Mason, et al, 2006; Callanan & Benzing, 2004; Freudenberg, et al, 2011; Lowden, et al, 2011; Cai, 2012a). This separation aligns particularly well with the argument made by Hillage & Pollard (1998) that 'deployment' (action taken by the individual) is a key component of employability but can also be found in a variety of other models and frameworks presented above (Cai, 2012a; Darce-Pool & Sewell, 2007; Finch, et al, 2013; Fugate, et al, 2004; Holmes, 2000, 2001, 2006; Knight & Yorke, 2006; Kumar, 2007, 2009; Mayur & Johnson, 2014 and Rothwell, et al, 2008).
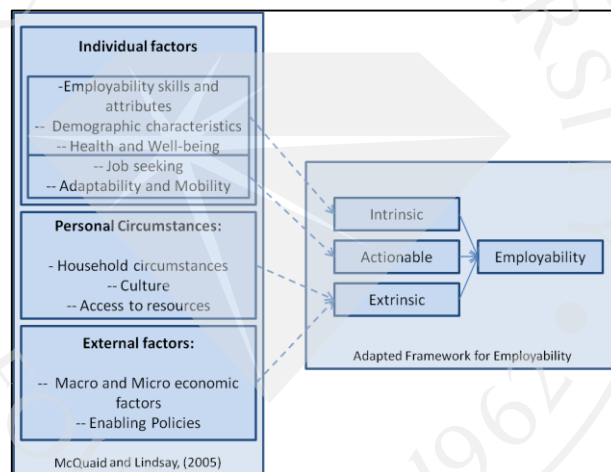
Figure 8: Influencing Factors of Employability

Following the view of Law, et al, (1998) giving merit to discussing the conceptual basis of a construct, employability is presented as an aggregate rather than a latent multidimensional construct whereby the underlying variables are causal rather than reflective (Fugate, et al, 2004) since the construct is a result of the underlying variables rather than the converse (Bollen & Ting, 2000). Fugate, et al, (2004) further assert that the construct of employability only holds meaning if its components are considered collectively. In line with social learning theory and reciprocal determinism

(Bandura, 1977, 1978 and Davis & Luthans, 1980) the underlying components of the construct are considered interdependent and the construct and its dimensions can only be fully understood and described through consideration of the whole constellation of factors. The assertion that employability is an aggregate multidimensional construct composed of reciprocal dimensions strokes fully with the holistic perspective on employability as comprised of a series of individual, contextual and actionable factors that must be considered in unison in order to fully comprehend and appreciate it. The manner in which intrinsic factors (IF), extrinsic factors (EF) and actionable factors (AF) affect employability (E) can be considered as a Cartesian function represented as E = f (IF, EF, AF) and graphically represented as shown in whereby points 1, 2 and 3 represent different possible levels of employability dependent on the factors.
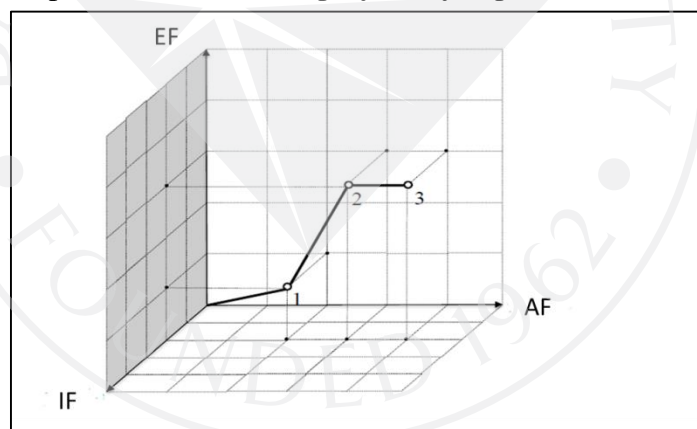
Figure 9: The Cartesian Function of Employability's three Categories of
        Influencing Factors

1.3.1 Intrinsic Factors

The intrinsic factors are considered as what lies within the individual with potential towards employability such as knowledge, skills, attributes and dispositions. They should therefore be seen as covering the cognitive, the psychological and the motor-physical. As discussed before, the literature on

employability testifies of the ambiguity on the meaning of some nouns used to describe these intrinsic factors (particularly the word 'skills'), and furthermore personal observation of the literature suggests at times blurry boundaries between skills, attributes and dispositions to describe what type of factors internal to the individual contribute to employability. The terms seem to be used interchangeably or poorly defined which makes it hard to categorize some of the literature presented on the topic. In search for a more standardized lexicon, Winterton, et al. (2006) present a Unified Typology for Competence. Competence is defined by the Oxford Dictionary as "the ability to do something successfully". The work of Eraut (1994) notes competence to besituational and content dependent. This leads to appreciating it as moreholistically rather than an aggregation of certain things.As presented before, the literature on employability makes at timesnote of competence or competency to refer to what makes one employable. According to the CIPD (Chartered Institute of Personnel and Development) the distinction between competency and competence is important to be made even though Winterton does not make mentioning of the distinctionbetween competency and competence.For the sake of clarity it is believed to be also important for this study while various the ambiguity and debate around views and articulations of the terminology in the context are being recognized (Mechaut & Winch, 2012). The CIPD states that "'competency' is more precisely defined as the behaviours that employees must have, or must acquire, as input into a situation in order to achieve high levels of performance, while 'competence' relates to a system of minimum standards or is demonstrated by performance and outputs." (CIPD, 2009, p.1)Adhering to this distinction, Winterton, et al (2006) model indicates the consideration for competence in particular areas of competencies.

Jackson (2009) identifies in her study on the US, Australia and Europe, the

competencies that are considered important by industry and presents the following

four categories: Task requirements at graduating level, Task requirements at high

level, Threshold competencies and Distinguishing competencies. As presented in

,for each of the categories a series of competencies has been identified as deemed to

be important by employers. For further description of each competency, we refer to

the work of Jackson (2009) who presents for each competency a series of definitions

on the basis of an extensive literature research, which goes beyond the purpose of this

study.

Table 2 : Competencies considered important by Industry

Category	Relevant competencies	
Task Requirements (Graduate Level)	Application of IT	Operating in organizational environment
	Problem Solving	Multitasking
	Decision making	
Category	Relevant competencies	
Task requirement (High level)	Project management	
	Meeting management	
	Coaching	

(Continued)

Table 2 (Continued) : Competencies considered important by Industry

Category	Relevant competencies	
Threshold	Ethics and Responsibility	Business Acumen
	Written communication	Work Experience
	Information Management	Numeracy
	Operating Globally	Professionalism and Work Ethic
	Intellectual ability	Accountability
	Lifelong learning	Life Experience
	Disciplinary expertise	
Distinguishing Competencies	Oral communication	Leadership
	Team working	Initiative
	Organizational skills	Adaptability and Change management
	Interpersonal skills	Emotional Intelligence
	Continuous Improvement Management	Creativity
	Metacognition	Entrepreneurship
	Cultural and Diversity Management	Attention to detail
	Political Skills	Stress tolerance
	Autonomy	Self-efficacy
	Critical Thinking	Reliability

Winterton, et al (2006) contend the link of their unified typology of competence with employability by means of a dual axis approach as presented in Figure 10. One axis represents the conceptual vs operational level of competence, whereas the second axis considers the personal vs occupational level. The occupational level consists of competencies that are related to the profession that is of concern be it conceptual, under the form of knowledge, or functional, reflected in skills and abilities. Competence at the personal level links with the individual's self in a reflective and learning capacity from a conceptual perspective on the one hand, and concerns on the other hand the interaction of the individual with others from an operational perspective. It can be argued that the sphere of operational-occupational and to a certain extent the sphere of operational-personal consider a more practical or actionable nature of involved competencies as they refer more to doing rather than knowing or thinking.

	occupational	*personal*
conceptual	Cognitive competence (knowledge)	meta-competence (facilitating learning)
operational	Functional competence (skills)	social competence (attitudes and behaviours)

Figure 10: Unified Typology of Competence (Winterton et al, 2006)

The dual axis approach results in four quadrants of competence (cognitive, meta, functional and social competence) for which in each quadrant can be matched with competencies as identified by Jackson (2009). In the cognitive competence quadrant it could be argued to find relevant competencies like numeracy, business acumen, problem solving and work expertise whereas competencies like lifelong

learning, critical thinking and continuous improvement management for example could be placed in the meta-competence category. On the procedural plain, functional competence could be argued to regard competencies such as multitasking, oral and written communication or information management whereas autonomy, teamwork, emotional intelligence and leadership are arguably more appropriately placed in the category of social competence. This four quadrant typology links very well with a holistic approach to employability since it includes the context of the specific field and the self at a general and action specific level. The choice of the competence - competency approach furthermore aligns well with the shifting attention to educational processes that have become increasingly competence/ competency-oriented (Jackson & Hancock, 2010; López Baigorri, et al, 2006; Rigby & Sanchis, 2006; Schneeberger, 2006) and can therefore be argued to be a good choice in order to aggregate factors of intrinsic and actionable nature. Adherence to a model of general and specific competencies is for instance a pivotal assertion in The Tuning project (Gonzales & Wagenaar, 2005), which, against the backdrop of the European Bologna agreement, aims to implement the 'tuning' of HE to the changing economy and world through collaboration and consultation with industry partners. The general competencies are subdivided in instrumental, interpersonal and systemic competencies, whereas the specific competencies are merely described as being discipline specific and dependent on the state of the art of science and practice. In consideration of industry in this endeavor, it is worth mentioning that the literature strongly points at the importance of non-technical competencies in the process of hiring graduates of equal academic caliber (Alsop, 2002, Hancock, et al, 2009; Kavanagh, et al, 2009). Tomlinson (2012) calls for the integration of academic,

personal and interpersonal, and behavioural competencies, and refers to it as personal capital, as the way forward for the appreciation of employability from an individual perspective.

1.3.2 Extrinsic Factors

The extrinsic factors cover areas that are considered as external to the individual, and may or may not be out of his/her control. Such factors are generally guided by socio-economic circumstances and conditions that enable or inhibit opportunities around e.g. education and employment and thus impact employability. The literature widely recognizes the state of the economy of a nation or a region to be detrimental to one's employability (Harvey, 2000; Lowden et al, 2011; Baum et al, 2008; Green et al, 2013; Cai, 2012a; Finch et al, 2013). Next to this, the impact of public policy around employment and education can be argued to be regionally different due to different philosophies to organize economic and societal activity (Tomlinson, 2012; Teichler, 2007). Hall and Soskice (2001) state that "... many of the most important institutional structures – notably systems of labour market regulation, of education and training, and of corporate governance – depend on the presence of regulatory regimes that are the preserve of the nation-state" (p.4) and point towards different practices of coordinating HR strategies with educational systems. Hansen (2011) notes that more state-led coordination of the labour market (such as can be found in central Europe) typically appears in unison with a stronger match of education level and job type where HE is found to hold regulative power in graduates' access to specific occupations. As the mirroring perspective, Hansen (2011) reports that more liberal, flexible economies such as UK, US or Australia, which are internally more competitive, more deregulated and have lower levels of employment

tenure, show increased potential for mismatch between educational level and occupational position with problematic 'return on qualification' as a result. This general view is supported by findings that European graduates rate their match of their HE profile and occupation as better compared to UK graduates who seem to evidence more unpredictable routes to employment (Brennan and Tang, 2008; Little and Archer, 2010). The work of Tomlinson (2012) also aligns with the impact of culture and employability, as democratic public policy is often a reflection of cultural values and belief systems which will be elaborated further in this section.

The employers and their perception on what employability is and how they evaluate an individual's fit for employment or career progression is another influencing external factor (Cai, 2012a, 2012b). Teichler (2009) points at the varying views of employers on employability due to differences in the nature of their field, the political climate or differences in traditions whereby such views' dynamic nature in the context of the changing economy becomes in term determining to one's employability. Baily (2008) notes the importance given by employers to the real performance of recently employed graduates in terms of evaluating their employability and thereby passing judgment on their educational credentials and those bearing the same for future reference. Baily goes further to state that educational output has lost its substantiality in that its value is subject to the often varying interpretations of economic agents and their belief systems in line with social and cognitive psychology around information selection and processing (Simon, 1957).

Cai (2012a) points to the link of Baily's views with those of institutional theory, in which human actions are driven by the institution they are part of and therefore influenced by its value systems as reflected in the earlier referenced conceptual model

for employer's perceptions of employability. In line with employers' perception, the reputation of the institution one has graduated from, also referred to as reputational capital (Harvey et al, 1997 and Brown & Hesketh, 2004), is a very important factor. As much as it is intuitively clear that one's association with prestigious HEIs positively influences one's employability (Harvey, 2001; Alessandri, et al, 2006; Capobianco, 2009), Jackson & Chapman (2009) present evidence that this does not mean that less prestigious HEIs cannot score equally well or even better in terms of employment prospects.

Tomlinson (2012) mentions this reputational capital alongside people's pre-existing levels of social and cultural capital, pointing at the fact that socio-cultural factors cannot be ignored as influential on employability. Social concepts such as for instance culture and equal opportunity can logically be argued to impact the employability of an individual on the basis of realities around respectively gender roles, access to education, connections and discrimination on the basis of age or ethnicity (Harvey, 2001; McQuaid & Lindsay, 2005; DEEWR, 2012; Green et al, 2013 and Riddell, et al, 2010). The work of Furlong and Cartmel (2005) and Power & Whitty (2006) are some well cited examples of how social class and cultural factors influence employability and evidence clear influence of culture on employability. Harvey (2001) also noted the environmental impact on employability, in particularly pointing at the fact that the individual's environment outside the HE context will without any doubt influence his/her employability. Following cultural value models such as those presented by e.g. Hofstede (1991) or Trompenaars and Hampden-Turner (1998), cultural values that promote success and achievement such as Hofstede's Masculinity, Individualism or Trompenaars' Internal Control and Achievement

orientationswould intuitively be interpreted to positively influence employability, making the link with the intrinsic factors discussed above. That being said, cultural realities are what they are, and may arguably affect employability either way. As much as collectivist, ascriptive, external locus of control and feminine societal values (the opposite of the above mentioned values) may not directly promote and celebrate the idea of success through individual work, such cultural make up can also be argued to be conducive to employability. Cultures that are strongly diffuseand collectivist in nature, were the line between functional and human relationships is blurred and there is a two way effect between the individual's actions and the group (s)he belongs to, highly value social networks whereby they - if not as a sine qua non – are common practice in realizing objectives of professional nature (Trompenaars and Hampden-Turner, 1998). High Fliers (2011) states that networking is a critical part of employability for graduating students. This was a study done in the UK, a culture that would score more individualist and achievement oriented on Trompenaars' Model, which helps to argue that networking is a transcultural influencer of employability and therefore can be argued as worthy of separate mentioning. Networking also forms part of McQuaid & Lindsay's (2005) model on employability and is also mentioned by Fugate et al (2004) and McArdle et al (2007) under the form of social and professional connections that function as mechanisms to enable more successful job search.

1.3.3 Actionable Factors

Even though some of the models and frameworks for employability give a sense of some activities that enable employability, aside from a general allusion in relation to deployment by Hillage and Pollard (1998) none identify them as a separate type of factors, even though in the remainder of this sections it will be clear

that the literature suggests this to be a viable option to explore. Gazier's seventh and most contemporary operational perspective, interactive employability (Gazier, 1998b), suggests by name that there is an actionable dimension to employability and this should therefore not be considered as a phenomenon that just happens butas one that can be induced when the right mechanisms are in place. In the context of this study, the actionable factors influencing employability are proposed by means oftwo phenomena: experience and engagement. Both should be seen in the light of the malleability of an individual and their situation (Dweck, 1999 and Chan, 2000). These also link back to the concepts of proactivity, adaptation and willingness to be transformed(Ashford and Taylor, 1990 and Crant, 2000). The malleability perspective contends that it is possible for an individual to change e.g. on the cognitive front through mental training or learning, or psychologically through motivational or traumatic experiences. It furthermore acknowledges the possibility of the individual to influence his/her circumstances and contends one is not purely subject to environmental circumstances. This does not mean that we ignore the impact that external factors can have on motivation to learn as evidenced in the work of Vygotsky (1978) in terms of the situational and social, but arguably they are not factors that one is passively subjected to.

1.3.3.1 Experience

Experience is framed by the theory of experiential learning (Kolb, 1984) be it in a formal, informal or professional setting. Kolb states that "learning is the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p.38). This transformational process will be elaborated on later in relation to the role of HE in the light of creating employable graduates,

following the assertion of Mayur and Johnson (2014),as a key perspective for this study in relation to the development of employability. Kolb presents experiential learning by means of a learning cycle consisting of 4 phases, based on the works of Lewin, Dewey and Piaget (in Kolb, 1984), and contends that one can start at any stage, but then must follow the sequence as presented in Figure 11 for the experience to have impact on learning.
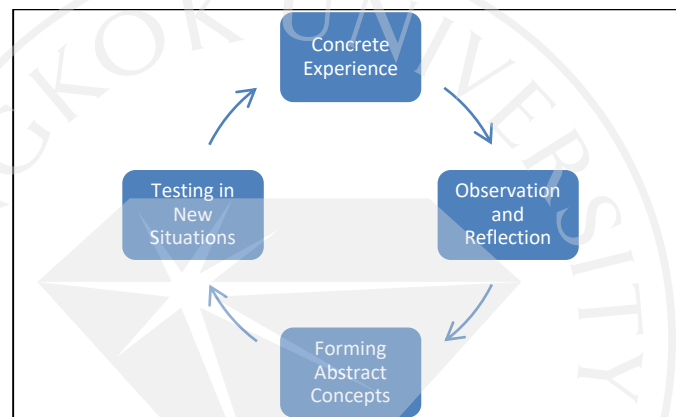
Figure 11: The Experiential Learning Cycle

Kolb's learning cycle suggests that a concrete experience followed by reflective observation of that experience by the individual leads to the formation of abstract conceptualization through the creation of theoretical models which are then to be tested in new situations, in turn creating a new concrete experience as a starting point to re-engage in new learning cycle. Alongside this experiential learning cycle, Kolb further mentions four learning styles on the basis of conditions that are conducive for learning: assimilators, convergers, divergers and accommodators. These styles each suggest that learners are active participants in the learning process and not a passive audience as also suggested by Klenowski, et al (2006). Such view requires a shift away from the receptive transmission model in learning (Askew & Lodge, 2000)

whereby the learner is seen as a passive recipient of information transmitted by the expert teacher, towards an approach that is more experiential, engaging and context sensitive whereby the teacher becomes a facilitator and guide (Klenowski, et al, 2006). James et al (2004) confirm this idea whereby they state that learning, and in particular learning for employability at HE level, holds shared responsibility between teacher and student. Wills (1993) and Freudenberg et al (2011) argued further the benefit of experiential practice in the advancement of learning for performance and competence. In order to transform knowledge into competence, one must consider practices as the outcome of the process, action as the enabler of the process and experience as the cognitive situation in which the process takes place (Ermine, et al, 2012; Ermine, 2013 and Moradi, et al, 2008).Experience is alsoreported in the context of selection criteria ofrecruitment practice in suggestion of its positive relation with performance (Harvey, 2001 and Tomlinson, 2012) and forms part of the relative nature of employability (Brown, et al, 2002 and Clarke, 2008). Yorke (2004) and Darce-Pool and Sewell (2007) also present work- and life-experience as influencing factors to employability in their frameworks. Jackson (2009) indicates the importance given to both types of experience (work and life)as per the perception of the employers. Holmes (2000, 2001, 2006) in his discourse around career identity also mentions the influence of field experience. Yorke (2004) mentions 'practical intelligence' as part of the encompassing elements of employability and Knight & Yorke (2006) identified skillful practice as an influencing factor. The idea of learning through experience is further echoed in the literature on good HE practices for employability (Dest, 2005, 2006; Harvey, et al, 1998; Candy, 2000a, 2000b; Mason, et al, 2006; Braunstein & Loken, 2004; Dressler & Keeling, 2004; Hall, et al, 2009; UKCES, 2008; Lowden, et al, 2011; Pegg, et al, 2012 and

Green, et al, 2013) and will be further addressed in the section around HE and employability in this literature review.

1.3.3.2 Engagement

Engagement – be it with learning in a curricular or extra-curricular context (Ehiyazaryan & Barraclough, 2009; Tymon, 2011 and Clark, et al, 2015), career opportunities (McArdle, et al, 2007) or in general with other actors that are part of the context (Gazier, 2001; Clark, et al, 2015) - presents the second actionable factor impacting employability. This is conceptually underpinned by the work of Crant (2000), Li et al (2010) and Ashford & Taylor (1990) on active adaptation and proactivity which has been discussed in more detail in Fugate et al's (2004) model in the previous section. For this study engagement is considered as the action of the individual to get involved in a certain activity or actively take advantage of an opportunity in relation to their employability and can therefore be compared to notions around personal initiative (Frese & Fay, 2001) and proactive behaviour (Crant, 2000). Engagement with learning is first of all indicated as a factor that leads to better learning (Knowles, 1970; Knowles, et al, 1998), but in an employment and career context generally aligns with the concept of life-long learning, which is commonly asserted as instrumental to employability in the literature (Candy, 2000a; Harvey, 2000, 2001; Leberman, et al, 2006; Nilsson, 2010; Jackson, 2009; Tomlinson, 2012; Green, et al, 2013; Rothwell & Arnold, 2007; Cai, 2012a, 2012b; Kumar, 2007, 2009; Martin, et al, 2009) as well as in governmental discourse on employability as will be presented in the second section of this literature review. Tomlinson (2012) further notes that if an employee does not continuously engage in upskilling, (s)he will find him(her)self at risk to end up in a situation of obsoleteness in

terms of career opportunities or even changing requirements of his/her current

employment. It is of course good practice in human resource management to offer

professional development opportunities whereby employees are supported in the

upskilling process, however, it still requires active engagement of the employee

(Sitzmann & Weinhardt, 2015). The literature around the evaluation of corporate

training gives evidence of this engagement not necessarily being that obvious and

should not be taken for granted (Bates, 2004) yet it the positive impact of engagement

in competency development in organizations on the employability of those involved

(De Vos, et al, 2011; Van der Heijden, et al, 2009). McArdle, et al (2007) and Fugate et

al (2004) clearly state the need for a 'go-getter' attitude and subsequent action in

relation to career development and particularly first employment which can be

particularly challenging to obtain. Brown & Hesketh (2004) further report on generally

two strategies in terms of first employment, which can arguably be extrapolated

towards further career development: the purists and the players. Purists adhere to the

school of thought of meritocracy and believe that their employability is still largely

equated to traditional academic qualifications and professional credentials. Players

however are adept at 'talking the talk' that is valued (read positively interpreted) by

employers and actively deploy strategies that allow them to present the appropriate

types of employability narratives. Generally it can be assumed that Players engage

more effectively with the employability context since they are more responsive to the

changing profile employers are looking for and hence more employable in this regard.

This further directly connects with the signaling theory discussed in Cai (2012a) and

the Claims-Affirmation model of Holmes (2000, 2006). McArdle, et al, (2007) make a

specific point around the advantage of engaging in the building, maintenance and

activating of networks in the employability context. The advantage of networking in general and its fundamental impact on employability is further echoed in the works of Fugate et al (2004), Adler and Kwon (2002), Higgins & Kram (2001) and Seibert et al (2001) through its link with the building of social capital as discussed in earlier sections. Dess & Shaw (2001) assert the notion that social networks have the potential for an individual to identify and engage with opportunities that potentially span across organizations, industries and careers. Networking requires the individual to actively engage in searching for and creating opportunities through people within their social and professional environment through relationship building and maintenance thereof.

1.4   Operationalizing Employability

In order to close the first part of this literature review and to guide the reader to the focus of this work moving forward, an attempt will be made to operationalize the construct of employability appropriately after summarizing the fundamentals underpinning the construct that are directly relevant to the remainder of this work.

Employability is a construct that has evolved over time in terms of how it has informed its relevant stakeholders. The most contemporarily appropriate perspective places the individual central to the construct yet is highly cognisant of the wider context with which the individual interacts and is, due to this contextual sensitivity, to be appreciated as relative and subjective. The literature offers a variety of models and frameworks that attempt to unpack and illuminate the constructaround its influencing factors which, when aggregated, show employability to be a multidimensional construct that can be broken down into three main composite, causal and interdependent factors (i.e. intrinsic, extrinsic and actionable factors). Commonly identified influencing factors in all approaches are mainly intrinsic in nature whereas

actionable and extrinsic factors are neither always addressed nor extensively unpacked. Overall however, there is agreement that investment in both human and social capital through education, building experience and networking prove to be the pathway towards building employability. On the one hand social capital works as an enabler for the individual to engage with the market or other opportunities to enhance employabilityand on the other hand human capital operates as a frame of reference used by individuals and employers to evaluate the current or potential employee's fit for purpose. In conclusion, in light of this study, the construct will be operationalized from a holistic perspective with strong consideration to cognitive, psychological, actionable and contextual dimensions as follows:

"Employability concerns the possession of a variety of competencies that enable an individual to be of productive value for themselves, the economy and society at large within an interactive context in which a variety of stakeholders participate. Employability is a relative construct that involves proactivity and adaptability to continuously position and repositiononeself in alignment with the dynamic demands of personal, economic and societal spheres. Aside from an intrinsic and extrinsic dimension, employability fundamentally includes an actionable component through the recognition of and engagement with opportunity and a positive disposition towards life-long learning to continuously build human and social capital ultimately resulting in a person's ability to be value adding and responsive to a wide variety of individual and contextual factorswith the eye onpersonal growth and professional success."

In closing this section, the main point of note is that the elements that are of specific relevance for this study are the threeinfluencing factors for employability to

form a more holistic appreciation of the construct. The next section will sketch the pertinent literature to place employability in a HE context as a second building bl for the development of the model this research aims to produce.

2   Employability and Higher Education

"Education is the kindling of a flame, not the filling of a vessel."

2.1   Higher Education

2.1.1   Definition

HE is defined by UNESCO (1996) as "all types of studies, training or training for research at the post-secondary level, provided by universities or other educational establishments that are approved as institutions of higher education by the competent state authorities" (p.2). The American Heritage Dictionary of the English Language (2009) defines HE as "education beyond the secondary level, especially education at the college or university level". The Collins English Dictionary (2003) describes it as "education and training at colleges, universities, polytechnics, etc". Webster's Dictionary (2010) defines it as "education beyond high school, especially that provided by colleges, graduate and professional schools". The Quality Assurance Authority (QAA) in the UK defines HE providers as "Universities and colleges, whatever their source of funding, and other organisations involved in the delivery of UK higher education programmes" (QAA, 2014).

Each of these definitions clearly indicates or at least alludes to different types of HE provision. Traditionally such types are referred to as strictly academic (universities and colleges), vocational (polytechnics), and professional (specialized institutions). Typically the three types distinguish themselves on the basis of the credentials awarded to their graduates whereby universities provide academic

degrees, vocational institutions provide a variety of degrees and diploma's and professional institutions award professional certifications. Today however, the lines between these types of institutions are more blurred than ever (Teichler, 2004) not only in terms of the academic credentials, but also in terms of the research outputs generated by the different types of HEI's. For the purpose of this study, we will refer to all as Higher Education Institutions (HEIs) and will only make distinctive assertions where absolutely relevant.

2.1.2 Institutional structure of Higher Education Institutions

Generally speaking, HEIs consist of two distinct departments: academic and non-academic which both are governed by a board that liaises with relevant national or - where applicable - industry specific governing bodies. The academic part of a HEI is typically headed by an Academic Director that oversees all activities that are of a curricular nature which largely consists of a cascading system of schools and programmes. The non-academic part of a HEI typically consists of administrative departments such as registration, student affairs, quality control, marketing, facilities, accounts, finance, etc, which have an internal or external coordinating function to the organization (McMaster, 2002) and hold both collaborative and conflicting potentials with the management of the academic side. The collaborative potential, of particular interest for this study, is that of student affairs and the quality unit which will be elaborated on in later sections. The student affairs department oversees activities that concern student life outside their academic environment. This role traditionally includes student clubs, student events, career center, and other forms of student support. The quality unit is charged with putting systems in place that govern quality throughout the entire organization, including

academic affairs. Its role involves monitoring and reporting on the adherence of quality standards set by the institution and by external stakeholders.

The academic department concerns what is often referred to as a HEI's core activities: Teaching and Learning (T&L) and - depending on the type of institution - Research (Cummings & Shin, 2014). T&L generally covers the student to graduate transformational process (following the perspective of Mayur and Johnson (2014)) through a sequence of learning experiences that make up a programmer and all the surrounding methodologies. Academic affairs are traditionally structured under an overseeing board of Deans or Heads of School holding a more strategic role of the institutions. Programmed are typically headed by Programme Managers who fulfill a more operational role to ensure the smooth running of a programme. The faculty is involved in the development and delivery of the course materials within an institutional curriculum framework designed and governed by what is typically referred to as a Curriculum Unit. Typically various boards and committees (temporary or standing) are used to create, deploy and evaluate policies and procedures to realize the totality of the HEI and its dealings.

2.1.2.1 Value Chain Principles in a HE context

The theory around representing an organization as a value chain was popularized by Porter (1985) whereby the organizational process of value creation through an input - process - output model consists of a series of activities that an organization engages in through which it adds value towards the eventual creation of an output. These activities are typically segregated into primary activities and support activities which act in unison towards the creation of the aspired output at an aspired level of quality if managed correctly. When observing the activities that take

place in a HEI in light of the perspective of Mayur & Johnsons (2014) of HEI offering

a transformational process from entry student to employable graduate, it is arguably

clear that a similar conceptualization can be used. The general contention around

presenting HEI in the form a value chain in Porter's form has been critiqued (Gabriel,

2005; Makkar, et al, 2008) yet Pathak & Pathak (2010) have refuted this critique by

evidencing the possibility to break the academic process down into rather discrete

activities of which some are core value driving and others fulfill a more supporting

function. In the context of HE for employability, the complexity of the

interdependence of all HE activities that hold potential can be recognized as

challenging to map Porter's Value Chain model 'as is' on a HEI, however, it is

arguably so that the involvement of a variety of activities add value to the

transformation process. Therefore, the principle of the value chain is deemed

appropriate to present HEI, recognizing that representing it as a 'chain' is most likely

too linear and the form of a 'web' of interlinked value adding activities is perhaps

more appropriate (Figure 12). In such conception primary activities are T&L and

Research supported by the support activities mostly performed by non-academic

departments (Cummings & Shin, 2014 and McMaster, 2002) which run constantly

interdependently to on one another.
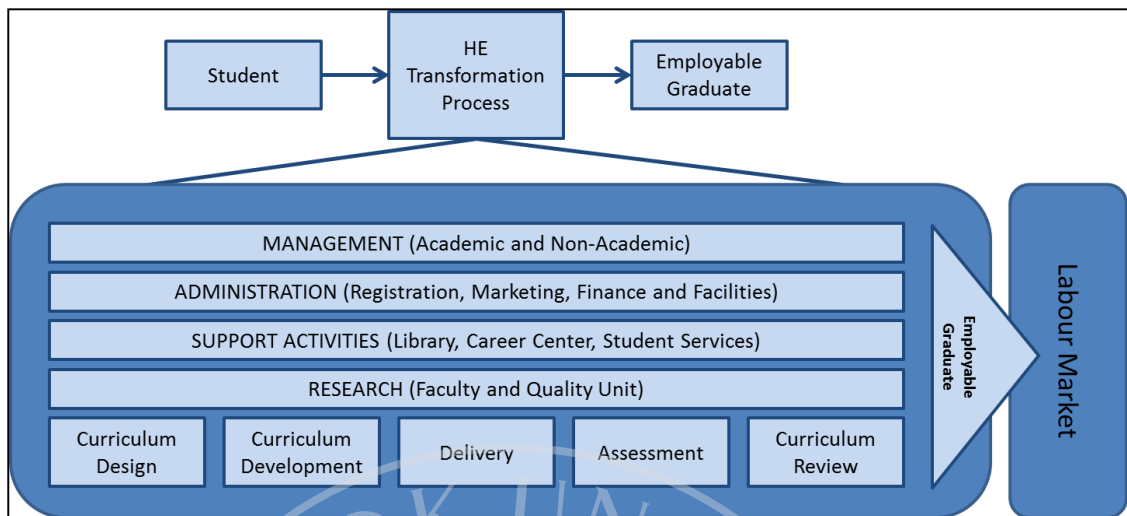
Figure 12: Value Adding Activities in the HE Transformation Process

When considering the learner as the participant to this transformation process as one of the most pertinent stakeholders of HE, a second application of the value chain is relevant for discussion: the knowledge value chain (KVC) (Ermine et al, 2012; Ermine, 2013). Of interest to this study is the particular presentation of the knowledge transformation process as part of this KVC (Figure 13). Even though the KVC is presented as a schematic to unpack strategic and competitive consideration for the firm, the transformation process from data into knowledge performance can show parallels with how individuals transform external impulses into effective employability.

Context (Situation)	Observation	Structuring	Learning	Experience	Vision	
Semantics (Interpretation)	Perceptive filters	Conceptual filters	Theories	Action	Strategic filters	Knowledge
Syntax (Form)	Signs	Codes	Models	Practices	Knowledge Strategy	
	Data	Information	Explicit / Tacit	Competence	Capability	Performance
			Knowledge	Wisdom		
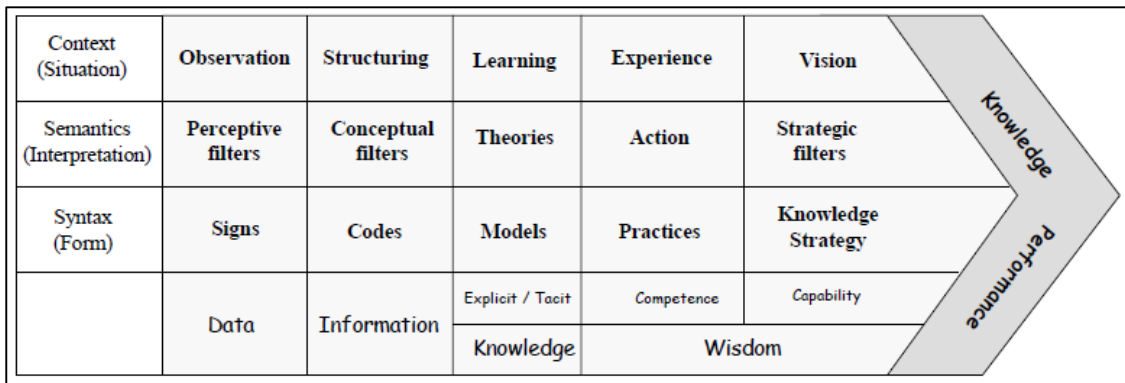
Figure 13: The knowledge transformation process in the KVC

Its relevance relates to the representation this approach gives around how competence can be achieved. Referring back to the reference made to Winterton, et al, (2006) around competence and competencies, and the manner in which the realization of the transformational process towards employability will be sketched in the remainder of this study, this conception will prove valuable not only in relation to learning, but also in relation to considerations around the devising of the transformational process that surrounds the individuals' learning. The transformation process considers six phases of transformation: reality to data, data to information, information to knowledge, knowledge to competence, and finally competence to capability. For each of these transformations consideration needs to be given to contextual and semantic factors (i.e. respectively situation and interpretation). The perceptive filters when observing, conceptual filters when structuring, theories when learning, actions to enable experience and strategic filters to develop vision, are considerations that can be argued relevant as a starting point around how a HEI can develop and effective approach towards employability (see section 2.7), which can be considered as the *vision* (under the form of capability) and subsequent knowledge performance as a result. Yet before embarking on exploring the effectiveness of HE to

address employability, it seems appropriate to first argue the relevance of

employability as an output of HE.

2.1.3 The Purpose of HE

The World Economic Forum Report on Education and Skills 2.0 (WEF,

2014) affirms, on the basis of the attention this is given in the UN 2015 Millennium

Development Goals, the critical importance of the quality and availability of

education for people as both an indicator and enabler of human progress. The role of

HE is often presented as the development and diffusion of new knowledge to benefit

the community at large (Maxwell, 2007; McHenry, 2007 and Giuliani & Arza, 2008)

and appropriate personal dispositions (Haigh & Clifford, 2011) in its students in order

to successfully participate in society. Aside from the potentialdescribed in terms of

HE's value for society, many studies have also indicated the value of HE in the

economic system (Haigh & Clifford, 2011; Giuliani & Arza, 2008; Maxwell, 2007;

McHenry, 2007; Kitagawa, 2004; Nelson, 2004, 1993; Charles, 2003; Cooke, 2001;

Salter & Martin, 2001and Dasgupta & David, 1994; OECD, 1980, 1994a, 1994b,

1998, 2012).Giuliani & Arza (2008) identified the existence of a variety of linkages

between universities and industry among which employment of graduates, joint

research programmes and informal meetings.

Etzkowitz & Leydersdorff (2000) argue the value of the Triple Helix

Structure of synergistic relationships between HE, industry and government. Even

though in their work the focus lies on innovation, they do recognize that other

outcomes can be the result of this type of synergy in relation to opportunities for the

individual and society as a whole (Leydesdorff & Etzkowitz, 1996) and at the same

time must be appreciated in its potential positive or negative effects (Leydesdorff &

Ivanova, 2014). They further point at the importance of communication and understanding of the 'languages' used in each of the helices in order to have effective and beneficial interaction. Leydesdorff & Park (2014) argued this interaction to result in appropriate institutional changes in the context of adaptive ecosystems whereby governmental, industry and educational systems can structurally evolve to effectively interface with one another. In terms of the knowledge economy and the knowledge society Carayannis & Campbell (2014) advance the idea of the Triple Helix structure towards a Quadruple and Quintuple structure by arguing the context of democracy for knowledge in the former and the environmental context of society in the latter. Either Triple, Quadruple or Quintuple Helix Structure indicates the need to recognize context in the appreciation of knowledge in its broadest sense and anything resulting thereof (e.g. employability).

When focusing more on the role of HE in this synergy, it is worthwhile to dedicate some attention to its particular purpose around employability. HE is argued to hold a transformational role (Mayur & Johnson, 2014), in line with Hagar & Hodkinson's (2009) view of HE as a process of "becoming", that enables its learners to become positive contributors to society (Harvey and Knight, 1996) and more particular work-ready to engage in the economic dimension of this society (CVCP/ DfEE/ HEQE, 1998). HE has been under increasing pressure since the 80's around its direct contribution to economic growth whereby particular attention is given to effective alignment with the needs of the economy (Harvey, 2000) which is often referred to in one breadth with employability.

Globally there is evidence of the simultaneous evolution of HE systems with economic transformations (Brown & Lauder, 2009 and Nayyar, 2008)

and the inclusion of employability therein (Poropat, 2011) however, the literature widely reports a gap between or even a mismatch of the output of HE and the requirements of the labour market of the 21st century (Tomlinson, 2012; Jackson and Hancock, 2010; Jackson, 2009; Bridgstock, 2009; Brennan 2008).Structural shifts in HE, not in the least through the growing commitment of governments – be it at nationally variable level - towards access to higher education over the last few decades, have pulled HE out of its once 'elitist' nature. This has resulted in 'massification' of HE whereby OECD countries report a rise of tertiary education for the age group 25 – 64 years from 21 to 30 %, in the EU countries from 18 to 28 % and in Canada, USA and Scandinavian countries above 40% (OECD, 2012). This rise in access is certainly without challenges. Scott (2008) reports on the concerns around distribution and equity of economic opportunity for HE graduates in today's more crowded labour market with an arguably diminishing facilitating role of HE credentials to desired employment. The literature further questions the role of HE in its overall ability to match the supply of graduates to the labour market demand and their utility therein be it due to graduates falling short of what is required by the labour market (Jackson, 2009; Bridgstock, 2009 and Brennan, 2008), over supply (Bowers-Brown & Harvey, 2004) or over-education (Dolton & Vignoles, 2000; Schatteman & Verhaest, 2007). This realization has led to state-led re-attemtps to establish an effective and re-attuned relationship between HE, the economy, the labour marketand the world of work (Brennan, 2008; and Tomlinson, 2012).

Even though the need for review of the HE systems, structures and approaches to meet the needs of the current economy is a widely supported idea in the literature, there is evidence of some critique around the shift of HE in terms of what is

taught and researched. Such critique (mostly concerning the position of universities) claims for instance that the observation of a narrowing tendency from broader academia towards more vocational programmesresulting in hollowing out the role of HE to cultivate humanity is evident (Bates, 1999; Nussbaum, 2006 and Duderstadt, et al, 2008). Bates (1999) warns for risk of closer alignment of HE with employability to compromise academic autonomy and result in training rather than education. Nussbaum (2006) asserts three fundamental elements in the cultivation of humanity, which are believed not to be given enough attention in case HE narrows its focus to employability: (1) critical examination of one self and one's traditions, (2) understanding, recognition and concern for others and (3) beyond factual knowledge, intelligent empathy towards others' emotions, desires and stories. Berdahl, et al (2008) warrants for the effects of neo-libarist pressures - and subsequent public investment - on the purpose of HE in majority by measure of its contribution to economic growth and preparation for the labour market. Boulton & Lucas (2008, 2011) assert the risk of such pressures to reduce HE to shopping centers for goods in popular demand driven by their perceived financial value.

In response to the critique that focusing on employability risks to infringe on the academic freedom and compromise HE's role to school the mind, attention needs to be drawn to the recognition of the new realities around the relationship between HE and today's highly dynamic 21st century economy (Harvey, 2000; Drucker, 1993; Friedman, 2005; Briscoe & Hall, 2002 and Arthur & Rousseau, 1998). HE's primary role is "to transform students by enhancing their knowledge, skills, attitudes and abilities while simultaneously empowering them as life-long critical, reflective learners" (Harvey, 2000, p.3) and this, done in a context that is aligned with economic

realities, does not necessarily have to go at the cost of the cultivation of humanity.

Particularly the construct of life-long learning is pivotal in his argument, whereby life-

long learning "goes beyond a single focus on an educated work force for economic

competitiveness. It sees a well-educated and trained population as necessary for future

economic prosperity, promotion of innovation, productivity and economic growth,

cultivation of community life, social and political cohesion and the achievement of

genuinely democratic societies with full participation" (Harvey, 2000, p.12). If

anything, it can be argued that over the last 30 years, HE, especially universities, has

become somewhat detached from today's economic realities. Good and best practice in

addressing employability through HE, as will be elaborately addressed in later

sections, are very varied in nature and scope of what they address, going well beyond

strictly field specific content. Such wide variety of approaches undoubtedly holds

potential for the cultivation of humanity. Candy (2000a) argues that the concept of life-

long learning unites the contemporary and historic role of universities.

2.1.4 HE and Employability

Over the last two decades, the literature reports an increased concern

by HE Isaround the employability of its graduates as a key discussion topic in the HE

landscape (Green, et al, 2013; Tomlinson, 2012; Drăgan, et al., 2012; Ghani, et al,

2012; Lowden, et al, 2011; Reichelt & Schreier, 2010 and Poropat, 2011).This is an

evident result of the commitment of many governments around the world to put

employability high on the political agenda (WEF, 2014) and formalizing calls for

accountability of HEIs in this regard (DEEWR, 2010; Miller & Leskes, 2005; Quality

Assurance Agency, n.d. and Gonzales & Wagenaar, 2005, 2008) through the inclusion

of employability in supranational and national quality frame works. In line with human

capital theory (Becker, 1975), such adoption suggests how fundamental the realization of governing bodies' task to create conditions that enable growth in the human capital stock is for economies in a both a knowledge-basedas well as a globalised context.

In the Standards and Guidelines for Quality Assurance in the European Higher Education Area, developed by the European Network for Quality Assurance in Higher Education (ENQA, 2009), clear reference is made to the need for HEIs to consider employability as an indicator for quality, with a main focus on the minimum requirement to have an information system that reports on (among other things) the employability of its graduates. Throughout the report explicit and implicit reference is made to employability as an important outcome of HE. As the report states in its opening address, it is meant to be a starting set of guidelines and standards to inform the creation of national frameworks. An example of this is the Quality Code (QAA, 2014) for Higher Education from the UK. This code consists of three parts that set expectations for each HEI in the UK in relation to academic standards, academic quality and information about HE provision. This is further elaborated on through a Code of Practice that consists of ten sections that function as authoritative practice references to the achievement of academic standards and quality with section 8 of the code addressing career education.

2.1.4.1 The place of Employability in HE

Even though many efforts have been reported worldwide on the matter of employability inclusion in HE, many of these cases remain cognizant of the complexity aroundintegrating employability into current HE practices (BIS, 2011; Lowden, et al, 2011; Pegg, et al, 2012 and Green, et al, 2013). A recurring reason for this is the remaining ambiguity surrounding the meaning of employability in a HE

context, its influencing factors and how they can be addressed. It needs no argumentation that one of HE's main purposes is to prepare those with access to become effectively contributing members in society. This warrants clear attention given to the ecosystem in which HEI's operate. Vande Wiele, et al (2015) argue the position of HEI's to be crucial in the realization and sustaining of the knowledge economy and society. They propose employability to be a highly effective topic of knowledge exchange between the various stakeholders in the ecosystem i.e. society, learners, government, industry and other HEI's.

Traditionally, HEIs have gained competitiveness by providing programmes that produce graduates that are highly knowledgeable in the theoretical-technical side of their field of study. Over the last 2 decades however, employers have highlighted the lack of other qualities they seek in employees beyond being theoretically knowledgeable, making graduates not ready for the workplace (Commission on the Skills of the American Workforce, 1990; Dearing, 1997; Timm, 2005; Partnership for 21st Century Skills, 2006; Jackson, 2009 and Brennan, 2008). This has shed new attention on graduate employability and the factors that influence it. HEI's who take the goal of employability to heart, can be argued to become the most competitive providers of HE through effective fulfillment of its purpose i.e. transforming its students into graduates that are competent employees by the yardstick of industry on the one hand and have the required competencies to manage their careers (Jackson & Hancock, 2010). Mayur & Johnson (2014) echo the idea of employability as a competitive concern in the HE landscape and call for the use of a customer intimacy strategy (Treacy & Wiersema, 1995), whereby the employers are seen as the customer of the HEI which "needs to deliver graduates with soft and hard

skills, flexibility, can-do spirit, intrinsic motivation, etc. "(p.28). In principle, this could position employability as one of the fundamentally most important factors on which students and employers choose the HEI they wish to engage with.

Barrie (2007) reports on varying views and opinions of academics in relation to the position of developing generic competencies (as a proxy of employability) in HE. The perspectives on the matter range from views that consider it to be out of the scope of HE to the opinion that there is clear opportunity for the development of generic competencies alongside field specific competencies. Barrie posits four categories of understanding around the place of employability in the mind of academics and presents this in terms of conceptions that are of precursor, complement, translation and enabling nature. The precursor conception sees generic competencies as prerequisites to entering HE(university in his argument) and therefore does not consider them as part of the purpose of HE. The complement conception argues for the complementing nature of generic competencies to field specific competencies by seeing them as functional skills. The conception of translation is nested in the perceived potential of generic competencies as a conduit for better application of discipline specific knowledge in the world. The enabling conception, the most complex conception of the four, sees generic competencies as interwoven enablers of learning and knowledge development in a HE context.

2.2   Effective HE for employability

The effectiveness of HE in relation to employability has been studied rather extensively in the narrow sense of the construct (i.e. focusing on cognitive and functional competencies as per Winterton, et al, (2006) typology) through the investigation of curricula. Research that considers organization wide HE activities by

adopting the view of employability as a holistic constructis scare and therefore deserves more attention (Pegg, et al, 2012). Boud & Solomon (2006) and Maher (2011) suggest that best practice isevidenced by a matured, coherent framework to embed employability in the curriculum alongside dedicated, extracurricular support services that enhance employability but does not elaborate considerably on specifics of such a framework or other activities. Cai (2012a) also suggests higher involvement of a variety of actors within and outside a HEI in relation to the development of employability in its graduates. The more holistic consideration of employability, as adopted for this study, requires HEIs to recognize the potential of a variety of organizational processes and activities in the development of employable graduates by considering the intrinsic, extrinsic and actionable factors to employability. The way HEI's may address employability can be viewed through the lens of value adding principles by identifying themed activities relevant to employability that take place organization wide in HEIs.

To further develop this section some of the more recent literature that presents and discusses evidences of good practice in HE will be drawn on to present a general framework consisting offive themes, which will then be further elaborated on theme by theme. The work of Butcher, et al (2011) covers good practice around HE and employability with a particular focus on the practices in the United Kingdom. The report by BIS (2011), even though commissioned by the UK government, evaluates international good practice to inform domestic decisions whereby it considers worldwide examples of good practice. Lowden, et al (2011) also makes reference to international good practice. The work of Pegg, et al (2012) gives considerable attention to pedagogy for employability. Green et al (2013) further present a European wide

international context in relation to employability of young people and gives

considerable attention to how HE can contribute to this. The work of Oliver (2010,

2011) and Careers New Zealand (2012) presents work that has been done in relation to

employability covering Australia and New Zealand.

The review of these overarching reports resulted in the identification of five

themes that re-emerged in each of these works:

- consideration of employability through T&L and curriculum;

- enhancing students' employability through the co-curriculum and extra-

curricular activities;

- engaging employers in developing the curriculum and other more

institution wide activities

- the need for evidence based approaches through measurement

- the importance of leadership

CBI (2011), Oliver (2010, 2011) and BIS (2011) recognize that there is no 'one

model fits all' approach to HE for employability because of its contextual nature in

terms of e.g. the field of study, the institution, its students and the socio-cultural

realities to name a few. The recognition of the economical and field specific context

for which the graduate is being prepared is in particular a clear point of distinction

that renders some approaches more appropriate in some contexts than others. In

general, Mayur & Johnson (2014) propose however to use practices that permeate the

whole HEI (inclusive of its external stakeholders) in the realization of student-graduate

transformation rather than the most traditional conception of focusing mainly on the

curriculum. In acknowledgement of both the contextual and the holistic consideration,

the following discussion of the five themes does not aim to be a prescriptive

discourse, rather one highlighting the potential value of institution wide considerations around employability. It must further also be noted that these themes carry, just like the influencing factors of employability, an interdependent relation to each other and must therefore not be considered in isolation of one another but rather with a potential to complement, inform and optimize one another.

2.2.1 Teaching and Learning and Curriculum for employability

2.2.1.1 Pedagogy vs Andragogy

Pedagogy finds its root in ancient Greece under the term that literally translates into "to lead a child". It can be defined as "the integration of practice of particular curriculum content and design, classroom strategies and techniques, a time and space for the practice of those strategies and techniques, and evaluation purposes and methods" (Simon, 1988, p. 371). Simon further notes that pedagogy concerns not only the teacher, but also the interaction between students and others in a culturally political context where knowledge is being purposefully produced for and by specific actors with a specific emphasis on reflective critical inquiry. The practical and reflective nature of pedagogy is important for this study sincepractice (McGrath & McEwan, 2011; White, 2007; DEST, 2005, 2006; Mason, et al, 2006; Braunstein & Loken, 2004; Dressler & Keeling, 2004; Hall, et al, 2009; UKCES, 2008) and reflection (McIntosh, 2010; DEST, 2005,2006; Boyd & Fales, 1983) are particularly important for the development and assessment of learning for employability. Cummins (1996) presents three pedagogical models on a continuum: traditional, progressive and transformative. The traditional model on one side of the continuum is typically teacher-controlled, shifting through more collaborative approaches in the progressive model towards critical enquiry at the transformative end of the spectrum.

Differences in traditional, progressive and transformational teaching are further elaborated in the work of Bigelow, et al (1994). In the context of HE and adult learning, the "child-leading" view was most popularly contested by Malcolm Knowles (1970; 1998) asserting the need for differentiation between pedagogy and andragogy (man-leading). Building on the work of Savicevic (1988) which presented the science around andragogy to deal with adult learning, Knowles, et al (1998) present six main differences between pedagogy and andragogy (

Table)and further extended the relevance of andragogy to the field of human resource development, however recognize that both approaches can hold potential depending on the situation. They see andragogy as another model of assumptions around learning with a focus on adults alongside pedagogy as one that grew out of the teaching of children.

Table 3: Pedagogical and Andragogical Assumptions About Learners)

	Pedagogical Model	Andragogical Model
Need to learn	Learners need to know what the teacher tells them.	Learners need to know why something is important prior to learning it
Learner's self-concept	Learner has a dependent personality	Learners are responsible for their own decisions

(Continued)

Table 3(Continued) : Pedagogical and Andragogical Assumptions About Learners)

	Pedagogical Model	Andragogical Model
Role of the learner's experience	The learner's experience is of little worth	The learner's experience has great importance
Readiness to learn	Learners become ready to learn what the teacher requires	Learners become ready to learn when they see content as relevant to their lives
Orientation to learning	Learners expect subject centered content	Learners expect life-centered content
Motivation	Learners are motivated by external forces	Learners are motivated by primarily internal factors

Malouf (2003), building on Knowles, work, contends the need to customize

T&L practices in an adult learner's context (possibly using pedagogical principles as a

basis) on the grounds of five assertions. The adult learner is argued to be more self-

directed and therefore practices that are more hands-off may be appropriate.

Considering that the adult has accumulated experience to draw on and can be assumed

to have enjoyed reasonable exposure to today's world is another dimension to

consider when developing T&L practice in an adult learning context. Adults are

suggested to have a fairly established value system that can be considered as less

malleable than that of a child, but at the same time gives a stronger foundation for the

generation of opinion, judgment and debate. Finally, Maloufargues that the adult can be assumed to have a level of confidence in applying concepts towards analysis of a situation, which suggests opportunity to introduce more complex learning experiences than would be considered in a pedagogical perspective.

Many contemporary HEIs have undergone a pedagogical/andragogical shift from teacher centered knowledge dissemination to a more student centered approach in T&L (Chism, et al, 1998; Sorcinelli, et al, 2006 and Mayur & Johnson, 2014) recognizing the importance of how students learn, favourable conditions that facilitate learning and the enhancement of students' engagement in the learning process (aligned with Kolb's learning strategies discussed before). This, in line with the notions on employability and the purpose of HE stated in previous sections, posits the preference of transformational approaches towards the development and assessment of employability through HE as touched on before. Cummins & Sayers (1995) identified eight characteristics to describe the transformative nature of T&L: (1) grounded in the lives of our students, (2) critical, (3) multicultural, promoting race equality and justice, (4) participatory and experimental, (5) hopeful, joyful, kind and visionary, (6) activist, (7) academically rigorous and (8) culturally sensitive. The overlaps between andragogy and such a transformative approach in terms of contextualization of the learning experience to the learner, the experimental and participative, the activist and the critical nature suggests a good complement between both.

Pegg, et al (2012) assert the notion that there is need for the appropriate skills and attributes in the teaching faculty to be able to engage effectively in the transformation of students in employable graduates. They specifically emphasize the need for an understanding of the way employability can be developed through

learning and how to contextualize teaching for employability in a programmer.

Lawton (2010) furthermore asserts that it would be shortsighted to assume that each

member of the faculty (and even supporting staff) would have what it takes and

therefore calls for the consideration of training and professional development in order

for the pedagogy/andragogy to be effectively deployed throughout the learning

journey.

To make an argument that one or another approach of T&L is more effective

for employability is hard to do due to the difficulty in establishing an "index of

employability" (Pegg, et al, 2012). The most pressing reason for this is likely the fact

that employability is something thatdevelops over time and not in the least during the

period of employment after graduation, which highly likely presents different

contextsfor different graduates not to mention other external and internal factors that

may affect this development once more echoing the relative nature of the construct

(Brown, et al, 2003, 2011 and Clarke, 2008).

2.2.1.2 Curriculum

2.2.1.2.1 Curriculum Design

Wilson (1990) approaches the concept of curriculum

from a holistic point of view by stating it to be everything that teaches a lesson and

goes on to categorizing curricula in 11 types: Overt/explicit/written/formal, Societal,

Hidden/covert, Null, Phantom, Concomitant, Rhetorical, In-use, Received,

Internal and Electronic (Wilson, 2005). The breadth of this view has its value in terms

of comprehensive thought, however becomes very complex for curriculum design and

development since some of the curriculum types (such as the Hidden, Null and

Phantom) are not actively controlled by the institution. Ellis (2004) suggests more focus

in attempts to describe and define curriculum and distinguishes between views that are prescriptive and descriptive. This study adopts the definition presented in UNESCO's UIS Glossary (n.d.) which defines curriculum as "the design, planning and sequencing of teaching and learning processes. It includes a statement of purpose, contents, activities and learning practices, as well as the modalities for assessing learners' achievements". It is felt that this definition can be positioned somewhere in between the prescriptive and the descriptive due to the fact that it presents the commonly considered general practice of curriculum yet also acknowledges some of the complexities of good practice such as design, planning and statement of purpose, which need to be continuously (re-)considered in the context of curriculum (Ellis, 2004). It is typically agreed that a HE curriculum makes up for a series of sequenced learning experiences, most commonly presented under the form of credit-bearing courses in the largest sense of the word, that may hold pre-requisite value against one another. Considering the approach of Wilson (1990) other learning experiences, perhaps less sequenced, less intentionally or less controllably emerging from the larger approach to education of the HEI, may also form part of the curriculum, but are not always credit bearing. The credit bearing learning experiences are then assessed to validate and confirm or deny the competence in an addressed competency or series of competencies as per the standard of the awarding institution.

The design (and development) of a curriculum are typically governed by a HEI's curricular policies, which state principles and processes in line with the T&L approach of the HEI to ensure quality (Glatthorn, 2012). Biggs' theory on Constructive Alignment for Curriculum Design (Biggs, 2003) identifies three critical elements for an effective curriculum: intended outcomes, assessment and delivery method. The

work of Biggs is well referenced in the literature on curriculum in relation to design and will therefore serve as a starting point to discuss curriculum for employability. In short, Biggs (2003) argues that, for any curriculum to be effectively designed, it needs to constructively align all three elements (Figure 14).This means that the delivery method must be designed in such a way that it is adequate to achieve the intended outcomes alongside the appropriate design of assessment of the intended outcomes thus validating the competence of the learner. Biggs furthermore also argues that if both alignments are in place, there is an indirect assumption that the T&L practices adequately prepare the learner for the assessment. This inter-linkage between outcomes, delivery and assessment is echoed to be equally appropriate in an employability context by Thompson, et al. (2008).
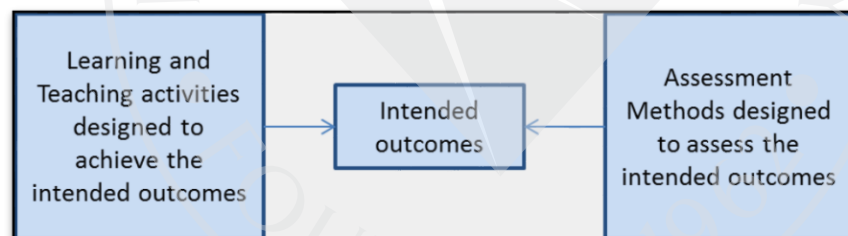
Figure 14: The relation between T&L, Outcomes and Assessment

The intended outcomes are the goals that a curriculum aims to achieve, and are traditionally presented in 'can do' statements expressing competencies a learner must be able to evidence while progressing through the curriculum and upon its completion. Such statements are often aggregated in what is known as the graduate profile, which is a general overarching description of the aspired graduate in terms of competencies possessed at the end of the academic journey. Two types of outcomes can be identified of hierarchical nature: exit outcomes and learning outcomes (Glatthorn, et al, 2012).

Exit outcomes cover the end goal of the curriculum and are directly derived from the

graduate profile. Learning outcomes are the intended outcomes at course level and are

related more specifically to the content or the competencies addressed in a particular

course. Good practice around the development of intended outcomes in the context of

employability requires careful consideration of the larger goal at exit level in relation

to the requirements of the labour market and career development and the way this can

be presented in exit outcomes to then be broken down into learning outcomes that

logicallyand progressively build the competency of the learner over time.

A graduate profile may for instance state that a marketing major graduate will

'be able to develop an integrated marketing communication plan to support the selling

of a product in the market, considering a variety of stakeholders and using a variety of

online and offline media'. One of the courses in the curriculum focusing on

communication in particular could then include a learning outcome that would for

instance state that upon completion of the course, the student will be able to

implement audience analysis technique to develop effective communication, which

would focus on the 'consideration of the variety of stakeholders' of the exit outcome in

the graduate profile. A course on digital marketing for instance could include a

learning outcome stating the student will be able to use a variety online marketing

communication tools in a marketing context, which would address the 'online media'

component of the exit outcome in the graduate profile.

Gunn & Kaufmann (2011), in line with the general idea of constructive

alignment, press on the value of giving consideration to employability at the point of

curriculum design with regards to outcomes, learning experiences and assessment. In

the light of outcomes, the question can be raised where employability will take

position in the curriculum. Peg, et al (2012) note the value of an 'employability award'
to be issued by the HEI to its graduates. The literature evidences 2 main approaches
towards addressing and 'awarding' employability through the curriculum: bolted-on
'employability courses' or embedding employability into the curriculum (Peg, et al,
2012; Yorke, 2004; Yorke & Knight, 2006; Jacobs & Strydom, 2014).

   The 'bolt-on' approach suggests the running of courses on employability
alongside the existing curriculum and targets specific elements that the institution
considers important or necessary in the light of employability. This typically covers
the development of competencies through professional practice courses generally
focusing on competencies of a more generic nature (Kamvounias & Thompson,
2008) but can also include topics related to career management such as job search, cv
writing or interview techniques (Pegg, et al, 2012). Yorke & Knight (2006) firmly warn
for the danger of boxing off the development of such competencies from the rest of
the curriculum and by this failing to introduce the relevance of these competencies to
the field of study. They do admit to the fact that the bolt-on approach allows for a
quick, practical, focused and easy to evidence address of employability, generally
without upsetting the status quo and therefore quite common practice of HEIs in
making the transition to a curriculum to consider the 'new' goal of employability. It is
not unsurprising that a HEI would opt for this approach since more invasive changes
to the curriculum (embedding employability throughout) can be a daunting task
(Barrie, 2004, 2007). The bolt-on approach can however be evaluated as limited in
terms of its effectiveness to develop competencies that make one employable.
Considering the competencies related to career development however, it can be
argued that bolt-on courses can have value and are more practically appropriate than

forcing its infusion in content specific courses. Examples of these can be courses around effective cv writing and job search. Considering the transferable/generic competencies such as communication, teamwork, problem solving, etc (Bennett, et al, 2000) it can be argued that isolated courses may not do justice to the importance these hold as overarching competencies in relation to operating in the field and even more generally future employability. James, et al (2004) and Kamvounias & Thompson (2008) further argue that these so called transferable/generic competencies cannot be seen independent from the discipline of study. Presentation of these competencies in isolation of field specific context or at best a once off moment of contextualization in the academic career of the learner, can be argued to hold the risk to result in these competencies being perceived by the learner as insignificant or of minor importance in the larger picture of the transformation process of the programme. Nagarajan & Edwards (2014) note that up to date graduates are still underexposed to the concept of employability and refer to the work of Thompson et al (2008) who firmly assert the practice of embedding employability throughout the curriculum through Biggs Constructive Alignment Theory as the more appropriate approach. Yorke & Knight (2006) argue that even though more complex, embedding employability in the curriculum, inclusive of work-based and work-related learning, is the more favourable course of action since it allows for a more wide spread attention to employability throughout the whole academic career and allows for a gradual development of the construct in the learner, acknowledging the 'long term' or even 'life time' dimension of employability.

Linking back to the Biggs (2003), embedding employability would first of all mean an integration of the concept in the intended outcomes of the curriculum at both

learning and exit level in line with what is discussed above. Secondly it would require careful consideration in how employability elements can be integrated and given attention in the delivery of the field specific material. Finally, development would favourably be followed by assessment thereof. The literature reports on the difficulty to measure employability, which presents challenges in relation to its inclusion into formal assessment (Yorke & Knight, 2006; Oliver, 2010, 2011 and Green, et al, 2013). Of course, a sine qua non around this approach is the cultivation of an enabling conception or at least translation conception (Barrie, 2007) around employability in the mind of the academics who will realize the curriculum.

In terms of outcomes, Kamvounias & Thompson (2008) argue for the integration of employability in a similar hierarchical structure as was described above. An overarching institutional description of the employable graduate which the HEI (cl)aims to develop can be broken down into particular relevancies for each offered programme under the form of exit outcomes and learning outcomes. This is not without challenge, but it allows for the acknowledgement that different fields may need a different mix of competencies with even different understandings of these competencies due to the different context. For instance, IT literacy for an ICT graduate can be argued to be evaluated differently in relation to competence than for a Marketing graduate. Similarly, what may be a 'generic' competency in and ICT context, may be seen as more technical in nature in the field of Marketing. Therefore, the argument of Kamvounias & Thompson (2008) to break employability down from an institutional level to a programme and course level seems logical and appropriate. Oliver (2010, 2011), Oliver & Wheelan (2011), BIS (2011), Butcher, et al. (2011) and Green, et al. (2009, 2013) recognize the good practice (and more and more the growing

requirement as per quality frameworks) of mapping outcomes against employability. It is furthermore argued though that the mere mapping is not enough since it does not evidence anything more than intention and may not reflect the reality of what is happening in the classroom (Knight & Yorke, 2004; Kamvounias &Thompson, 2008; Porter, 2004). The literature generally reports on a strong trend ofHEIs to set employability as a key goal for their curriculum (EUA , 2013; Drăgan, et al, 2012; Ghani, et al, 2012; Reichelt & Schreier, 2010) and needs therefore to have a mechanism in place that evidences the realization of this goal. The reference to the Knowledge Value Chain (KCV) (Ermine, et al, 2012; Ermine, 2013) in section 3.1.2.1 of this study furthermore supports the idea of an embedded approach to developing competence and employability capacity in an individual by means of a its proposed knowledge transformation process.

2.2.1.2.2   Curriculum Deployment

In terms of curriculum deployment, or in other words delivery and assessment (which is colloquially referred to as teaching and learning practice (T&L)), there is a wealth of literature on the evaluation of T&L practiceand itsconduciveness to employability. This has resulted in a series of attributes that can be considered for T&L professionals when building and deploying a curriculum for employability. T&L practices conducive for employability are considered to be learner centered, authentic, activity based, reflective and collaborative (Vande Wiele, et al, 2015a).

The learner centered approach has been discussed before in relation to the movement from the 'sage on the stage' towards the 'teacher as coach and mentor' that fosters, nurtures and 'awakens' capabilities in the learners (Blumberg, 2004, 2008). The

approach is argued to be appropriate for employability in numerous aggregating works around the topic (Butcher, et al, 2011; Pegg, et al, 2012; Green, et al, 2013; Weimer, 2013; DEST, 2005). Learner centeredness directly echoes the central position of the individual in the construct of employability. This approach does not only adhere to the view of the learner being a participant in the transformational process, but firmly places the onus on the individual to take ownership of their own learning (Klenowski, et al, 2006) and links seamlessly with the context of adult and life-long learning. This approach is argued to create more independent learners and empower them to develop their career identity (Hinchliffe & Jolly, 2011) of which the value in terms of employability is affirmed by Jackson (2009).

Weimer (2013) asserts five shifts that need consideration in transitioning towards learner centered learning approaches: (1) the power balance is different whereby learner-centered learning puts more onus of responsibility on the learner inclusive of the context with which learning is engaged, (2) content is created through dialogue and is used as a set of building blocks towards achievement, experience and ultimately competence, (3) facilitators guide the learning process through the design of the learning experience, (4) learner agency drives the construction of employability identity, and (5) consideration of learning about learning in orchestra with learning for fields specific or generic knowledge. Weimer (2013) specifically points at the fundamental importance of application of theory by the learners in a first step towards making the theory actionable. Examples that enable the shift towards learner-centeredness of the T&L experience are smaller class sizes, class discussions and debates, interactive modes of teaching, brainstorming for problem solving, guided inquiry, Problem Based Learning, role playing and group projects (BIS, 2011,

Butcher, et al, 2011; Gunn & Kaufmann, 2011) Problem Based Learning and Work

Based Learning have also been argued to be very conducive delivery methods in light

of employability, but also in light of effective learning in general (Yorke, 2004; Yorke

& Knight, 2006; Gunn & Kaufmann, 2011).Gunn & Kaufmann (2011) and Clark, et al

(2015) furthermore also mention extra- and co-curricular activities in the discourse

around placing the student central to the learning experience, which will be discussed

in a later section of this work, but exemplify the complex nature yet extensive

potential of curriculum through the blurring of formal and perhaps more informal

learning. Such assertion suggests a sense of blurring lines between T&L as one of the

core activities of HEIs and the wider perspective on curriculum presented by Wilson

(2005) as a the context in which employability may be addressed. Such approach could

consider the integration of both and try to capitalize on possible synergies.

Authenticity is a second attribute of T&L practice that is considered

fundamental to its conduciveness towards employability (Patrick, et al, 2008;

Lombardi & Oblinger, 2007; Reeves, et al, 2002; Herrington & Oliver, 2000; Jackson

& Hancock, 2010; Oliver, 2010, 2011; Knight & Yorke, 2006; BIS, 2011; Peg, et al,

2012; Lowden, et al, 2011; Collins, 1997; DEST, 2006). Authentic learning

experiences focus on "real-world, complex problems and their solutions, using role-

playing exercises, problem-based activities, case studies, and participation in virtual

communities of practice The learning environments are inherently multidisciplinary"

(Lombardi & Oblinger, 2007, p.2). Reeves, et al, (2002) present the following 10

elements as essentials to the design of authentic learning experiences: real world

relevance, ill-defined problem, sustained investigation, multiple sources and

perspectives, collaboration, metacognition, interdisciplinary perspective, integrated

assessment, whole product outcome and multiple interpretations for solutions or result. Authentic learning is argued to connect well with the career identity and claims-affirmation idea of Holmes (2000) by means of allowing opportunity for the learner to compare and test personal interests against the social and cultural structure of the discipline of study (Lombardi & Oblinger, 2007) and - given appropriate design - further allows for experiential learning following for instance Kolb's learning cycle to enable long-lived attachment to what has been learned (Herrington and Oliver, 2000). Authentic learning aligns well with Bandura's social cognitive theory (1977, 1978) noting the value of new contexts either social or disciplinary in relation to learning. It is clear how this holds relevance for employability not only in relation to first employment, but also in relation to career development. Jackson and Hancock (2010) argue the relevance of context in relation to learning and its enhancing effect on transferring what was learned to the workplace.

The level of authenticity of the learning experience can be considered on a continuum whereby case studies on real life examples can be considered as low in authenticity compared to a situation of apprenticeship whereby learning occurs mainly by doing or through an internship whereby a student partly or fully participates in the operations of a firm. The authenticity of the latter two is higher since they mirror the real life working environment the learner aspires to participate in much better than a case study discussed in a classroom whereby mistakes have very little to no consequence other than a grade mark, hence presenting a very different reality for the learner to consider. The immersion into a real life experience and subsequent exposure to a wider context inclusive of all its additional complexities can be argued to allow for much richer forms of reflection compared to more controlled forms of delivery

like case studies. At the same time, the highly authentic experiences may be much more overwhelming, however, Lombardi & Oblinger (2007) report on the increased motivation and perseverance, but also acknowledge initial disorientation or even frustration, which can be argued a good reality experience in relation to the need for flexibility the current economy demands from its participants. Mayur & Johnson (2014) note the importance of transformational readiness in the process of employability development. Authentic learning and assessment situations clearly dictate such personal disposition for the learning to be optimal, which is found to require some learners to review their conceptualization of 'learning' and the responsibility of the learner in such authentic learning and assessment (Klenowski, et al, 2006; Klenowski, 2002). Nathan & Petrosino (2003) argue the need to consider what they call the 'expert blind spot' referring to the situation whereby there are possible challenges for the expert teacher to understand what it is like to be a novice in the field, that being said, not every authentic learning experience puts the learner at the start at novice level. It is however intuitively clear that the more authentic the experience, the more relevance can be drawn towards the evaluation of competence of an individual in relation to their performance.

This attribute of T&L concerns the permeation of the learning experience with activities for concept acquisition, application and testing (McGrath & McEwan, 2011). Activities have the inherent power to engage the learner more easily in the learning process and make him/her a true participant in the transformation process (Fallon, et al, 2013; Albanese & Mitchell, 1993; Boud & Solomon, 2006; Boud & Feletti, 1997; Boud, et al, 1985). The inclusion of experience in approaches to T&L has also been reported to have positive impacts on academic achievement (Mendez & Rona, 2010).

White (2007) asserts the ability of 'praxis' (application of theory in practice) to induce deeper and more pragmatic learning. The orientation towards doing in T&L practices such as Action Learning (Freeman, et al, 2014; Shelley, 2014; Gleason, et al, 2011; McIntosh, 2010; Clark, et al, 2015), Problem Based Learning (Hung, et al, 2008; Barrett & Moore, 2011) and Experiential Learning (Mason, et al, 2006; Boud & Solomon, 2006; Braunstein & Loken, 2004; Dressler & Keeling, 2004; Hall, et al, 2009; UKCES, 2008; Lowden, et al, 2011; Pegg, et al, 2012; Green, et al, 2013) are argued as appropriate in this context since they do not only create engagement, but provide the experience of applying, testing and trying theory in practice whether this is in a controlled, hypothetical or real life environment. Aside from the obvious activity dimension of apprenticeships and internships, there is also a wide variety of activities that can take place in a classroom and are conducive to the idea of employability (Fallon, et al, 2013; Gleason, et al, 2011). The experience of doing (or even being) whichthe learner engages with makes the learning much more personalized and may cater to a variety of learning styles that may not be considered in more 'passive' approaches of T&L (Kolb, 1984). Experiential learning is further also reported to be of value to learn about potential careers (Aldas, et al, 2010; Eyler, 2009). Freudenberg, et al (2011) note the increasing popularity of including work experience in HE to address employability.

Of particular interest around Activity Based T&L practice, as it directly relates to the delivery of the curriculum, is the instructional strategy that supports this approach. Marzano (2007) presents highly cited work on instructional strategies for desired outcomes whereby he argues for the development of instructional strategies linked to the performance of the student and further contends that a correct strategy

does not exist, only good strategies that can be improved over time. This assertion strokes well with the relative dimension of employability and learning for it. As part of the development of delivery and assessment, the instructional dimension of the teacher's coaching role in the transformational process is highly important and may require the consideration of particular frameworks of which the most typically considered are Bloom's (1956) or Krathwohl's (2002) taxonomies. Their work mainly focused on the development of outcomes, but has been seen as highly valuable in relation to development of instructional strategy (Marzano, 2007). Such instructional consideration helps the alignment of outcomes with different 'cognitive levels' as presented by Bloom througha cumulative hierarchy of 6 categories in the cognitive domain with for each a set of appropriate action verbs. The 6 categories (and further sub categories)as presented in Table , ordered from simple and concrete to complex and abstract, are: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation.

Table 4: Bloom's cumulative hierarchy of 6 categories in the cognitive domain

Knowledge
Knowledge of specifics
Knowledge of terminology
Knowledge of specific facts
Knowledge of ways and means of dealing with specifics
Knowledge of conventions

(Continued)

Table 4 (Continued) : Bloom's cumulative hierarchy of 6 categories in the cognitive

domain

Knowledge
Knowledge of tends and sequences
Knowledge of classifications and categories
Knowledge of criteria
Knowledge of methodology
Knowledge of universals and abstractions in a field
knowledge of theories and structures
Knowledge of principles and generations
Comprehension
Translation
Interpretation
Extrapolation
Application
Analysis
Analysis of elements
Analysis of relationships
Analysis of organizational principles
Synthesis
Production of a unique communication
Production of a plan or proposed set of operations

Table 4 (Continued) : Bloom's cumulative hierarchy of 6 categories in the cognitive

domain

Knowledge
Derivation of a set of abstract relations
Evaluation
Evaluation in terms of internal evidence
Judgments in terms of external criteria

Krathwohl (2002), based on the work of Bloom, called for a revision of what

he called the Original Taxonomy, and proposed a two dimensional framework

whereby consideration is given to what Krathwohl refers to as the Cognitive Process

Dimension and the Knowledge Dimension resulting in a four by six taxonomy table

as presented in Table . By no means is the presentation of this framework an attempt to

unpack the knowledge construct, rather is it presented here in its value towards the

consideration of appropriate instruction towards learners in respect purposeful

learning.

Table 5 : Krathwohl's framework around the cognitive process of learning

	The Cognitive Process Dimension					
The knowledge dimension	Remember	Understand	Apply	Analyse	Evaluate	Create
Practical Knowledge						
Conceptual Knowledge						
Procedural Knowledge						
Metacognitive Knowledge						

Reflection is considered a fourth attribute to T&L with the eye on

employability (DEST, 2005). Boyd & Fales (1983) assert the value of reflective

practice on one's actions, learning and performance towards the acquisition of new

knowledge by means of challenging one's existing understanding and examining

experiences. Boud, et al (1985) argue for a methodical approach to reflection to induce

new learning through review, analysis and feedback. Self-reflection is however not

only argued as enhancing for learning (McClure, 2005) but also considered as highly

valuable in the context of building one's employability (McIntosh, 2011). The value

lies in the fact that reflection aligns very well with the transformational nature of

learning this study adheres to and following the position of Mezirow (1998, 2000) that argues that learning cannot be transformational in absence of the engagement in critical evaluation and even breaking of one's habitual thinking, reflective practice finds a logical place in the argument of appropriate T&L practice for employability. Learning about the self, becoming self-aware through self-discovery and applying this towards positioning oneself more optimally for future reference (Rogers, 1982) is argued by many of the above discussed conceptualizations of employability to be of value and particularly in line with constant, life-long learning (Nilsson, 2010 and Martin, et al, 2009). Self-awareness (Boud, 2001) and self-management (De Vos & De Soens, 2008) are pivotal to reconsideration of one's habitual thinking for future reference, personal and professional growth. The art of reflection can help to boost critical thinking skills, encourage learning about own thinking (meta-cognition) and help prepare for evaluation (Homik & Melis, 2006). Following Van der Heijde & Van der Heijden's (2006) view on occupational expertise as related to personal flexibility, anticipation and optimization, and corporate sense, it is intuitively clear that reflective practice allows for the building of expertise through critical self-review of one's behaviour with the eye on future adaptation. This reflective practice enhances the potential for an individual to be ready to be transformed, which is argued by Mayur and Johnson (2014) as a critical factor in the development of employability.

The collaborative nature of T&L practices is a fifth attribute that adds to its conduciveness to employability (DEST 2005). This is stooled on the social context in which learning is a social activity of all participants in partnership and whereby the interaction in a social context contributes to professional development beyond the shared content (Polanyi & Grene, 1969; White, 2007). This is furthermore reflected in

the notion of 'communities of practice' (Lave & Wenger, 2002) where knowledge and experiences are shared to increase all members' knowledge and future potential by means of learning from and with one another. This co-production of competency, be it generic or field specific, is furthermore reported by Blake (2007) to result in positive experiences in relation to idea generation, problem solving and learning how to learn. These types of competencies are found to be desirable for the 21st Century economy (Jackson, 2009). The collaborative nature of learning therefore holds potential in covering content, address purpose and develop process in a learning context. Active engagement in a social environment is strongly asserted by Weimer (2013) to generate value out of collaborative learning. Dillenbourg (1999) points to the value of collaborative learning approaches as effective for the development of competencies such as teamwork, communication and problem solving.

        2.2.1.2.3 Assessment of Employability

        Next to the challenge to embed employability in the delivery, Barrie (2004) states that HEIs often find it difficult assess employability and further contends that this is not really tested until students enter the workforce. Hager (2006) and Halfhill & Nielsen (2007) report on the difficulty to measure employability due to the fact that - aside from the problematic use of the terms skills, attributes and the like – the elements that make up employability often present overlaps and therefore become more complex to be identified, induced and measured. The characteristic of authenticity of learning experiences can again provide a valuable option to consider in relation to assessment as part of the learning experience. Knight & Yorke (2006) argue to move away from the traditional idea of measurement and rather adopt an approach of judgment. They particularly stress the importance of

formative assessment, which is also supported by Kift (2002) when they express concern over the appropriateness of summative assessment for the evaluation of employability. Their main argument rests on the need for rich feedback to the learner as food for thought, reflection and subsequent learning for future growth, which summative assessment typically does not include or allow for. Therefore they call for an assessment arrangement that differs from what is currently mainstream practice in HE. Knight & Yorke (2006) admit to the potential of main stream (often summative) assessment to assess (and thus warrant for) understanding and more straightforward competencies given a carefully considered assessment plan. They suggest the use of a mixed form of high stakes and low stakes assessments. High stakes assessments are those that traditionally link with the achievement of a grade through testing. Low stakes assessments are those assessments that do not necessarily link to a grade achievement but can be rolled out under the form of practice exercises, homework or preparatory work towards a high stakes assessment whereby the focus is more on the process rather than the output. The suggestion for a combination of both comes from the fact that some of the competencies (e.g. self-management, willingness to learn, taking responsibility) may not be very well fit for high stakes assessment. Formative assessment (or low stakes assessment) allows for the evaluation of these skills and its development through continuous feedback and reflection through assessment practices inclusive of peer and self-assessment. In T&L methods like e.g. Problem Based Learning, the process is considered as important as the output and is subjected to continuous evaluation though high or low stakes assessment (Barrett and Moore, 2011). A further argument of Knight & Yorke (2006) is the need for students to be 'knowing students' in light of their employability which means that they must be

aware of what to learn, how to learn, how it will be assessed and how they will be judged. This aligns with Biggs (2003) Constructive Alignment Theory on curriculum design and development, since it creates an environment in which the learner is well prepared to reach the required achievements successfully. In the general context of employability it aligns also particularly well with the different types of competence Winterton, et al, (2006) propose and most of the frameworks and models that have been discussed earlier around the influencing factors of employability.

The focus on achievements is critical in relation to assessing employability as per the yardstick of what is valued by employers, which often considers rather complex competencies (Knight & Yorke, 2006). The use of portfolios is reported to be an effective way to deal with claims-making when it comes to achievements in the context of employability (Mittendorff, et al, 2008; Baume, 2001; Yorke & Knight, 2006; Oliver & Whelan, 2011) and is also found to be a good assessment practice in relation to practice-based education (Brown, 2003). Kumar (2007, 2009) also suggests the use of portfolios as good practice to help building CV's as part of his SOAR model. In HE the use of portfolios often pertains the demonstration of achievements in a summative assessment capacity (Oliver & Whelan, 2011; Baume & Yorke, 2002; Brown, 2003; Nystrand, et al, 1993). Research of Nystrand, et al (1993) and later Baume & Yorke (2002) acknowledge the challenge in assessing portfolios' reliably and identify five difficulties: (1) evidences in portfolios to claim achievement tend to be diverse, which would require clearly articulated expectations by the assessors, which in turn may stifle students' creativity and feeling of ownership over the compilation of the portfolio, (2) there are likely to be different circumstances to achievement, which makes judgment more complex, (3) a variety of claims may not necessarily give equal

weight to all elements that are being assessed (in this case employability), (4) by nature portfolios tend to be lengthy, whereby its grading becomes more taxing and (5) due to its complexity portfolios requires assessors that are well trained in the use of indicators. Oliver and Whelan (2011) report on the positive opportunities around portfolios for quality assurance purposes, in particular around employability.

In order to be able to develop portfolios students need to be very well aware of the programme learning indicators in a practical context and be able to critically reflect on their achievement, which calls for the promoting of self-reflection throughout the programme and in other parts of the assessment programme. The practice of portfolios is discussed as a co-constructivist approach towards employability by Klenowski, et al (2006) aligning very well with the view of learners as active participants in the development of their employability. The collaborative and reflective nature of T&L practice which is fundamental to the use of portfolios (Carnell & Lodge, 2002 and Klenowski, 2002) has been discussed extensively before in relation to its conduciveness to employability and Kumar (2007) also argue for its benefit towards the building of one's professional profile in relation to career development. In order to be able to integrate portfolio development in the curriculum, the HEI must offer guidance to both students and faculty in terms of creation, maintenance and use of portfolios (Oliver and Whelan, 2011).

For a more general approach to ward sasses ment of competence, which through authentic learning experience can cover all four categories presented by Winterton, et al (2006), Knight & Yorke (2006) present several considerations dependent on the way competence is being viewed as presented in Table 6. The first and second consideration of 'competent' allows for fairly mainstream assessment

modalities. Consideration (3) to (5) require a fair level of authenticity of the assessment, which in constructive alignment would ideally call for authentic learning experiences in terms of development as well.

Table 6: Considerations on Competence

One is competent when one	Implications for assessment
(1) has sufficient knowledge	Assess knowledge, at best understanding
(2) is an adept problem solver	Assess the quality of solutions to well defined or at best ill-defined work related problems.
(3) possesses clinical practical skills	Use of objective structured clinical examination at best in an authentic setting.
(4) is an effective and efficient practitioner	Assess the effectiveness and efficiency of practice in authentic settings inclusive of a wide variety of assessors (self, peer, supervisor, client, etc...).
(5) can practice effectively on the basis of reflection	Idem as above, but also considering evidence of self-reflective practice and consequent learning.

In this regard, Knight & Yorke (2006) offer an eight step systematic approach to the assessment of employability: (1) establish a programme assessment plan, (2)

clearly communicate to all stakeholders what employability means, what is expected and on what basis judgment will be passed, (3) give students abundant exposure to examples of employability through a carefully designed programme that constantly promotes the construct in a curricular context, (4) have trained staff in coaching and assessment practices framed in a quality assurance system, (5) the fewer assessment decision points the better (ideally pass/fail), (6) when competence is reached, expand attention to other areas and use informal feedback to push for excellence (7) build through a variety of formative tasks towards the ·final· high stakes assessment of employability and (8) encourage learners to compile own evidence to make claims for their employability.

   2.2.1.2.4 Concluding statement on Curriculum and Employability.

   It is clear that the current advice on curriculum and employability revolves around the embedding of employability in the curriculum as favoured over addressing it in isolation (Gunn & Kaufmann, 2011). To weave employability into the deployment and assessment of the curriculum, it is advisable to (re)-design the T&L practices towards student centered approaches in an authentic setting with attention given to learning from and through experience inclusive of reflection and in collaboration with others. It is furthermore argued that it is worthwhile to consider curriculum practices that give attention to the process as well asclear expression of evidences of achievement. Even though traditional methods of assessment are critiqued in their ability to effectively evaluate employability in its full breath, recognition must be given to the difficulty of measuring the construct and the complexities around appropriate assessment structures. The use of portfolios is argued

as a worthwhile practice around the development and assessment of employability yet requires institutional integration and considerations around resource allocation in order to be effective (Oliver & Whelan, 2011).

As a closing statement Pegg, et al (2012) assert that "work experience contextualizes learning, has a strong influence on graduate employment and should be integrated into course curricula wherever possible. In order to maximize learning for employability and the academic subject it is important that this should be a pedagogically supported experience, which includes reflection and articulation of the learning achieved. Where this is difficult or impractical, it may be possible to embed examples of work-related learning or simulated work experience " (p.45). It is clear that effective T&L for employability must consider all three influencing factors of the construct in relation to the learner's readiness to transform, the learning environment, and the delivery and assessment of the content of study in an integrated manner. This requires very careful consideration and substantial expertise in curriculum design, development and deployment in order to effectively permeate the learning environment with employability.

2.2.2 Support Services

A second theme that the literature evidences as important to a HEI's address of employability is the availability and activity of support services. Mayur & Johnson (2014), Gunn & Kaufmann (2011) and Clark, et al (2015) call for the consideration of both curriculum and co-curricular activities in light of employability and further study through formal and informal learning. The literature reports on the strong realization by the educational sector of their responsibility to support students in their career development as well as their academic growth (Gysbers &

Henderson,2005; Jarvis & Keeley,2003; Mittendorff,2010; Careers New Zealand, 2012). Geurts & Meijers(2009) further report on the argument of policy makers that career support by educational institutions will help in developing career identity. Killeen, et al (1999) point at the value of knowledge around work and occupation for students' future employability and assert the need for education to give attention to this. Kuijpers, et al (2006) argue the positive effect of career competencies, which concern career reflection, exploration, action and networking (Kuijpers & Scheerens, 2006), as positively influencing career identity. Kuijpers, et al (2011) further point at the importance of the learning environment in developing these career competencies. Meijers, et al (2013) however note the scarcity of empirical evidence that commitments to career support in fact truly result in the effects that are theoretically proposed. Bridges (2014) acknowledges the works of Amundson, et al (2010), Amundson (2006) and Lara, et al (2011) yet points in particular at the gap in the literature around the evaluation of the effectiveness of Career Center Services. Early works of Oliver & Spokane (1988) and Whiston et al (1998) do suggest however a positive effect of career guidance around planning and preparation for work roles on students' decision making around careers. Hughes, et al (2002) furthermore argue in favour of immediate outcomes of effective guidance leading to increased motivation and interest in new employment or options for learning.

Support services are presented here as any activity that is not typically part of the core credit bearing curriculum (hence is co- or extra-curricular) and provides support to the students to complete the transformation process from entry student to employable graduate. This links well with Mayur & Johnson's (2014) pivotal notion of readiness to be transformed in an employability developmentcontext. Given learners'

different personalities, learning styles, educational and socio-economic backgrounds (Knowles, et al, 1998; Malouf, 2003), it can be expected that the readiness to be transformed may vary at the start. Even though, as mentioned before, there is a level of selection that HEIs engage in at the moment of intake and throughout the progression, the need to maintain and further develop the readiness to be transformed is critical as this goes beyond entry requirements when considering for instance the choice of majors or similar specialization. Besides consideration for this fact in the development of the curriculum with the inclusion of learning support services, other activities that hold value to develop and assess employability are often present in a HE context. Recurring themes of supporting activities in the literature are Career Services (also referred to as Career Centres) and Alumni.

2.2.2.1 Career Services

Support services in relation to career can cover a wide variety of activities such as career counseling, running workshops on career related skills, facilitating internships, temporary or full time employment opportunities for students and organizing of career events to name a few (Schiersman, et al, 2012; Bridges, 2014). Heffner Macera & Cohen (2006) and Fouad, et al (2009) report on the inclusion of career support courses in the credit bearing curriculum. They found that this practice resulted in reduction in career decision making difficulties and greater career decision making efficacy. McWhirter, et al (2000) also report on lower levels of career indecision for students that engaged in a course on career guidance. Tien (2007) however reports on the fact that the provision of career services in principle is not enough to reduce the difficulties students face in relation to career decision making. The way the services are set up and the type of interventions that are made where

necessary are instrumental to reduce these difficulties. Further on the point of evaluating the effectiveness of career services, Venable (2010) notes the importance of recording and analyzing the activities of career centres in order to better understand the effect their provision has, inclusive of the evaluation of the student experience which, according to Amundson, et al (2010), needs more research. This tracking may involve the amount of appointments that are being made, the attendance of workshops or information sessions and the impressions of students in relation to the effectiveness of the provided support to name a few. Venable (2010) mentions the option of outsourcing this type of practice yet this must be considered as part of the strategic planning if this is to be effective.

The support activitiesin the realm of career centres are seemingly mainly focused on creating a practical pathway towards employment through developing skills that are of practical importance within career management and the provision of access to opportunity. The need for this is pertinent since effective decision making around careers is not always that self-evident for students and guidance is therefore of value with the eye on graduate employability (Krass & Hughey,1999). Amundson, et al (2010) furthermore report on the continuous reflection of the traditional career-matching and information-giving practices rather than the development of career management competencies that will enhance the ability of the students to effectively progress their career. A HEI can addresses this through sessions around topics such as CV and cover letter writing, job interview techniques, job search and career planning or through the facilitation of employment opportunities towards building experience for to be graduates (Schiersman, et al, 2012). The former are practical career management competencies that, as discussed before, may be more difficult to

integrate in a content curriculum, even though some overarching competencies such as problem solving, planning and organizing, self-management and communication that can be embedded in content curricula can easily be argued to be also relevant in this context.

This type of activities are usually developed and run 'in house' or adopt practices from the career counseling field whereby Schiersman, et al (2012) point at the need for training and development of the staff in this area in order to provide effective career support, and Niles, et al (2009) point at the importance of competencies around creating awareness by and facilitating access for students. The work of Lara et al (2011) can be referred to for further elaboration on attitudes and interests of people involved in the facilitation of career services. Coulter-Kern et al (2013) assert the value of guiding students in their career search in particular in terms of decision making around career. Gottfredson & Johnstun (2009) assert the use of the practice of self-directed-search developed by John Holland (Holland, 1994). The theoretical underpinning to this lies in the fact that personality and work environment are preferred by most people to be congruent (Holland, 1994; Spokane & Holland, 1995; Holland, et al, 1997). Aside from personality, the literature also draws on the development of competencies around career management in students (Meijers, et al, 2013) in relation to career identity and choice. Aside from the addressing the more practical career management competencies, the activity of facilitating employment opportunities also holds value in terms connecting students with opportunities for employment which allow them to gain experience, apply their competencies and shape their graduate identity. Aside from the value that experience holds in terms of future job opportunities upon graduation as discussed before, it is also argued that

working adults are often reported to find their learning more meaningful (Knowles et al, 1998). The inclusion of external stakeholders, primarily employers, in the career support activities provides further a starting point for networking, which is often presented as a fundamental influencing factor to employability (Bridges, 2014; McQuaid & Lindsay, 2005; Fugate et al, 2004). Student engagement is further also asserted as pivotal to career services' meaningful impact. Ludwikowski, et al (2009) report on the fact that typically there is rather low engagement by students in the career services that are offered in HEIs, and point at the lack of research in this area in order to advance the development of programmes towards higher engagement. Redmond (2006) and Stevenson & Clegg (2011) evidence the difficulty to get participation in co- and extra-curricular activities by students in HE which can be attributed to their different motives for engaging in HE (Pegg & Carr, 2010; Little, 2005, 2008; Little & Archer, 2010). Clark, et al (2015) nevertheless report on the strong potential of engagement in extra-curricular activities. Cardoso, et al (2014) point at the fact that students (especially in a first cycle of HE) only become concerned about issues of employability a few months before graduation. Tien (2007) also reports on the reality that students in HEI's are not always aware of the provision of career support services and such awareness is arguably critical as a first step towards engagement.

Even though the literature points at the value of academic and career counseling partnerships for the development of employability (Gunn & Kaufmann, 2011; Nicoletti & Berthoud, 2010; Bridgstock, 2009) and Bridgstock (2009) further strongly asserts the need to start the development of career management competencies early in the HE career through an integrated approach within the credit bearing

curriculum, this integration is found challenging and support services usually remain rather separated from the academic side of HE (Pegg, et al, 2012; Green, et al, 2013).

2.2.2.2 Alumni

Alumni hold potential towards supporting the employability of existing and to be graduates. Pizam, et al (2013) report on the value of alumni in their bridging function between HEI and industry. Alumni hold recruitment potential for the employers, but at the same time act as ambassadors for the HEI they graduated from. The notion of networking as presented in the actionable factors and support services is of high importance for the employability of graduates in a HEI whereby Alumni is the first direct opportunity for the development of and engagement in such network towards future employment opportunities. Webb (1998) argues that alumni are the only permanent institutional constituency of a HEI and need therefore to be considered as a potential building block towards a sustainable HE project (Tromble, 1998). "Students-turned-alumni have a vested interest in the reputation of their alma mater as it defines their intellectual journey and the value of their qualification" (Gallo, 2012, p. 43). Gallo (2012) further argues for the long term relationship that alumni hold with their alma mater, rather than a short term relationship as suggested by the views around students as customers (Browne et al, 1998).

2.2.2.2.1 Institutional Advancement to capitalize on Alumni

The theory of Institutional Advancement, that argues 4 stages of transforming alumni from "stranger" to friend, is being used to describe a process of how alumni can be used to further support and develop the HEI (Gallo, 2012). This process considers the definition of affiliation, the building of affinity, the

fostering of engagement and finally the securing of support. At the affiliation stage it is critical to establish and identify clear links between the alumni and the HEI (Weerts, 2007; Weerts & Ronca, 2007) through the development of a database that sets the foundation for further tracking of the alumni. Lauer (2002) reports on the value of creating an alumni database system that holds both quantitative and qualitative data on the members in order to more effectively steer the alumni activities. In terms of affinity, referring to a subjective preference towards the alma mater, Precedent (2009) argues for the building of this affinity from the moment the student enters the HEI. When affinity is established, the alumni can be expected to *engage* with the HEI in a variety of alumni activities where they find personal value (Tromble, 1998) such as establishing or maintaining networks (Feudo, 2009) and form an active alumni base. Tromble (1998) further argues in relation to *support* whereby alumni are to be considered as one of the most valuable resources of a HEI through the donation of funds, expertise or time.

2.2.2.2.2   Alumni and Employability

In relation to how Alumni can support a HEI efforts towards employability, the literature identifies a variety of works aside from the overarching reports that mention its value in a more general manner (Pegg, et al, 2012; Green, et al, 2013; BIS, 2011; Lowden, 2011). Portera (2002) and Webb (1998) examined the benefit of alumni as institution's advocates whereby they assert that alumni hold a strong source or credibility towards the brand of a HEI by means of personal statements around the benefits they have gained from their academic journey towards employment among other benefits. Shih & Chou (2013), Turanchik (2002) and Clouse Dolbert (2002) assert the capacity of alumni in relation to offering advice to a

HEI in an informal way or as representatives in institutional governance, whereby they can bring the realities of the search for employment, the workplace and their wider engagement with society forward in an evaluative context for the educational experience they have enjoyed. Under the form of institutional ambassadorship alumni can be deployed by a HEI towards the attraction of new students for the institution but also function as role models for current students by means of evidencing the potential the HEI's transformational process offers in relation to personal and professional success (Button Renz, 2009; Weerts, 2007; Weerts & Ronca, 2007). Pecora (2012) further argues the value of alumni in relation to the stronger academic performance of students through a role modeling or even mentoring capacity. This is strongly echoed by Gannon & Maher (2011) in their study on the value of alumni in a mentoring role at an undergraduate level. Finally, but not in the least less fundamental to the HEI achievement of graduate employability, is the potential and very real ability of alumni to offer student support towards effective work experience, employment throughout their educational career and employment upon graduation (Button Renz, 2009; Fuedo, 2009; Chewning, 2000) which not only holds benefit for the development of an authentic learning experience for the students when integrated in the curriculum, but also provides opportunities for networking and effective career progression.

2.2.3 Employer Engagement

Employer engagement is a vital component of the HEI's transformation process from student to employable graduate in its value to allow a HEI to keep the proverbial 'finger on the pulse'. Since employers constitute the demand side in the context of employability (Kleinmann & West, 1998; Evans, et al, 1999), HEI must take the opportunity of creating a valuable relationship with this stakeholder to be

informed of the nature and demands of the destination its graduates aspire to arrive at.

A variety of literature presents the need for consideration of employers in the context

of HE for employability (Cai, 2012a, 2012b;Wilson, 2012). Hillage & Pollard (1998)

note the need to consider the ‘context’ inclusive of employers, where McQuaid &

Lindsay (2005) refer to employers under the influence of external factors. The USEM

(Knight & Yorke, 2004) and CareerEdge model (Darce-Pool & Sewell, 2007) mention

the importance of authentic experiences in learning for employability whereby

employers can be a very useful ally to create those. Kumar’s (2007) SOAR model

mentions the need to interact with opportunity where Rothwell, et al (2009) note the

importance of understanding the labour market, the value of the university brand in

the labour market and the demand of the labour market. The Claim-Affirmation model

by Holmes (2000, 2006) also makes reference of the relevance of employers in the

context of employability. The general literature argues for the inclusion of employers

in the transformation process to employability (Pegg et al, 2012; BIS, 2011; Green et

al, 2013) with the eye on a mutually beneficial relationship (Pizam et al, 2013; Cai,

2012a).

2.2.3.1 The Value of Employer Engagement

The report of CBI (2011) is a good example of how consultation

of industry reveals important aspects of employability and how such studies must not

be underestimated in their influence on defining and understanding of employability

by HEIs. This report is argued to have been very influential in the development of

policy for HEI’s in the UK (Pegg, et al, 2012). As much as trying to describe

employability from the viewpoint of the employer may lead to a narrower view of

employability that is mostly skills oriented as discussed before (and therefore can be

argued to be too limited to solely guide HE in the context of employability), studies like this do allow to identify and address gaps that HEIs may overlook in the development of employability in their graduates. Respect, trust, understanding, commitment and clear communication are presented as important fundamentals for the sustainability of industry-HE relationships(Pizam, et al, 2013).The HEI must take an active, leading role in especially the establishment but also the maintenance of the relationship (Mayur & Johnson, 2014). The literature however also reports on the danger of too closely focusing on industry and as a result compromising the intellectual freedom of the academic (Giuliani & Arza, 2008; Nussbaum, 2006; Duderstadt, et al, 2008) which is one of the arguments that are made in the larger debate in the literature around the purpose of HE. Even though these studies present the debate largely around the potential negative effects on research, in the same vein it can be argued that close ties with industry may narrow down the content presented in the curriculum as argued by Nussbaum (2006) and Duderstadt, et al (2008). It would be shortsighted not to acknowledge the potential costs of establishing relations with industry and employers, however in search of effective mechanisms, this work chooses to take a constructive approach towards this dimension.

2.2.3.2 Variety of Employer Engagement

The value of employers and industry engagement in the transformation process will be generally discussed by identifying its benefits through the system approach of Mayur & Johnson (2014) considering input, process and output. For each phase, it is clear that some of the engagement of employers/industry can be more invasive and 'involved' than others, however, each of them hold value in the holistic approach to transforming students into employable graduates. High levels

of involvement will be evidenced to have a stronger potential to support HEIs to address employability, however may require significant reconsideration of currently perhaps more traditional practices that do not involve this stakeholder. It will also be clear that involvement of employers and industry does not always clearly delineate itself to one of the three phases of the system, which leads to a spillover effects between each of the phases.

2.2.3.2.1 Input

A minor invasive, but nevertheless important, collaborative relationship between HE and industry presents itself in the form of financial support provided by industry. Scholarships for students enhance access to education (Blasko, et al, 2002; Brown & Hesketh 2004; Millburn, 2009) and thus increasing their chances on becoming more employable. Donations and other forms of financial support furthermore also allow HEIs to develop their facilities and capabilities to strengthen their student – graduate transformational process. It is reported earlier that systems with authentic learning experiences and authentic assessments are costly and are therefore likely to require more resources, including financial resources, than more traditional systems (Green, et al, 2009). The resource of time must also be considered in relation the development and execution of authentic learning experiences, whereby Fleming (2008) argues that HEIs who are less research intensive are more likely to deploy more innovative and effective T&L practices than their counterparts.

A very valuable input employers can provide is the representation of the demands of the labour market (Cai, 2012a; Playfoot & Hall, 2009; Abraham & Karns, 2009; Meredith & Burkle, 2008) and past evaluations of

working graduates (Pizam, et al, 2013).Such input addresses strategic and operational concerns since it allowsthe HEI to define, in a relevant manner, what employability represents from the point of view of the employers and inform how this can be integrated in the transformation process. It furthermore provides input for curriculum design in the understanding what is concretely valued by industry and extends the validation of the curriculum by involving external stakeholders through the evaluation of graduates to identify gaps in the curriculum or even in the wider transformation process. A variety of studies have presented methods of how to do this by means of collaborative work between HE researchers and industry through the compilation of competencies that are valuable and ranking them in terms of importance. Jackson (2009) in her study on undergraduate management programmes covering USA, UK and Australia, calls for collaborative partnerships between HE and industry in terms of competency profiling processes, citing the CIHE (2008) in that it is "important for business sectors to be more clear, consistent and effective in signaling their requirements to students and universities. The Financial Services Skills Council (2006) further warns for the confusion on the meaning of different competencies by different employers, which may burden the translation of competency profiles into educational programmes. Christensen & Cuffe (2002) and Kift (2002) report on a case whereby a wide variety of stakeholders were consulted for the development of graduate attributes for a law programme inclusive of employers and professional associations. It was however strongly asserted that this would not have been possible without significant support of the HEI where this took place. Green, et al (2009) identified the confusion between multiple stakeholders in the HE employability context. Such studies do not only strengthen the understanding of HE of the employer perspective

on employability, but also generate opportunity for research outputs, enhancing the

reputation of the HEI in the academic circles and in industry. The work of Jackson

(2009) presents a very comprehensive literature review around how employers'

opinions and input can be used in order to identify what kind of competencies are

relevant and should be prioritized.

2.2.3.2.2 Process

A more integrated approach, whichmore intensely

involves employers in the process phase, is the inclusion of employers in the

development and execution of the transformation process. Employer engagement in

curriculum, ranging from curriculum design to assessment, undoubtedly holds strong

potential to better align the curriculum to the goal of employability (Green, et al,

2013; BIS, 2011; Lowden, et al, 2011; Antonucci, et al, 2004). Mayur & Johnson

(2014) present the value of employer engagement in relation to the creation of the

learning programme and the measurement for its effectiveness and suggest the

practice of advisory boards for programme development. This practice is also asserted

by Kolster, et al (2014) and Eurydice (2014) as good practice towards how HEIs are

able to better address graduate employability. In such a configuration, employers are,

as part of the internal quality assurance procedures, consulted on the design and

development of the curriculum inclusive of general modalities around delivery and

assessment. Such collaborative relationship allows for not only the construction of a

commonly agreed end goal of the transformation process, but also opens the

transformation process up for discussion, which is arguably more effective and - once

institutionalized - more sustainable as compared to periodically collecting perceptions

of employers on the employability of its graduates. In turn, higher involvement of

employers in the curriculum design process allows them to better understand the philosophy of the HEI in relation to education and employability, and to function as a soundboard for new approaches and directions the HEI aspires to (CBI, 2011; Pegg, et al, 2012; Butcher, et al, 2011; Green, et al, 2013). This collaborative effort would logically results in implicit or explicit lobbying power of the HEI through either the employers directly or through their endorsements of the programmeand its graduates (Pizam, et al, 2013; Pegg, et al, 2012). Drake, et al (2009) in their study on the potential of industry-HE collaboration, point at the value of how HEI and their programmes, in collaboration with industry, can also be adapted and adopted for the upskilling of the current workforce through a transformational path that does not necessarily has to result in obtaining a degree. Any of the aforementioned forms of involvement of employers in the development of the HE offering has enormous potential in relation to the HEI's ability to realize the goal of employability.

Even more invasive engagement of employers in the process phase can be found in terms of involvement in the execution of the transformation process. Here it can be argued that employer engagement can bring value by means of providing knowledgeable faculty (experts) on a part time or guest lecture basis (Pizam, et al, 2013;Kolster, et al, 2014), who provide first-hand information on the current state of the industry in which they operate, enhancing the authenticity of the learning experience of the student. The value of faculty with industry experience has been argued before and can be extended through the involvement of employers (Kolster, et al, 2014) in the delivery and/or assessment of coursework in a setting that is as authentic as possible and the use of business mentors in the T&L practices of authentic learning or through industry projects is becoming

more and more common practice in HEI that place employability at the heart of their

'raison d'etre' (Pegg, et al, 2012; BIS, 2011; Eurydice, 2014).

Both forms of engagement, be it through steering

committees or through active participation in the delivery and assessment, require

serious commitment from both parties which can be challenging (Pizam, et al,

2013).Close collaboration of full time faculty with industry allows them also to keep

abreast with the current practice and develop networks that gather intelligence to spur

the identification of further projects.

Outside of the curricular activities, employers can be

involved in the transformation process through collaboration with support activities

such as employment fairs, communicating employment opportunities and guest

lectures on career development, training programmes or other activities that are

conducive to the employability transformation (Schiersman, et al, 2012; Bridges,

2014). Mayur & Johnson (2014) note the need for HEI's to connect curricular and co-

curricular activities to professional employment and/or future studies not in the least

by increasing the communication with employers or providers of further study.

2.2.3.2.3 Output

At the output end, employers play of course the most

pivotal role in relation to first employment upon graduation. Validation of the

employability of graduates can be argued to be the highest if the students get

employed by employers, yet this is to be appreciated in a relative context. Employers

endorse programmes by hiring its output and send a strong signal to all stakeholders

(internal and external) around the value of the programme and the transformation

process used to deploy it. It is intuitively clear that association with well-known and

highly regarded organizations increases the prestige and credibility of the HEI in relation to its quality. In the IT sector, Adelman (2001) reports on the competing pressure from corporate accreditation on academic qualifications such as for example the value of SAP qualification. Through close collaboration with employers, HEIs can seize the opportunity to present a credential that stands on par with what is required by industry and that is validated and endorsed by employers. The awarding of professional certification alongside an academic degree is not uncommon (Kolster, et al, 2014; Eurydice, 2014) and suggests stronger alignment with requirements of the labour market. It further allows for the inclusion of professional bodies and associations in the conversation around purposeful education and quality assurance (Cardoso, et al, 2014; Pegg, et al, 2012). The arguments around the value of knowledge communities for organisations by David & Foray (2002) can hold true for HEIs alike. The involvement of 'externals' in a continuous exchange of ideas allows the HEI to keep current with what the requirements are of the external environment, but at the same time allows for the development of new knowledge within the realm of HE for employability. Aside from authenticity, this form of cooperative education allows the institution to be up to date with the state of the art, incorporate this in its transformation process and be at the forefront of purposeful knowledge transfer, reproduction and production.

Pizam et al (2013) warn for certain obstacles that may impede the forging of valuable long lasting industry-HE relationships. Faculty with no or little industry experience may be more reluctant to engage in relationship building with industry due to a lack of understanding of the environment and limited realization of how much this may benefit the students and the HEI as a whole. There

needs to be a good sense of appreciation and respect between faculty and industry

people, which can easily be developed through regular interaction and the serving on

industry boards. Curricula can become outdated and therefore present little or no value

to the industry of today and therefore must be updated. Clear and regular

communication needs to take place between industry and HEIs in formal and informal

settings, in order to increase mutual understanding and induce the emergence of

opportunities for collaboration.

2.2.4 Measurement

In terms of measurement, the question surrounds three components:

what, why and how to measure. At a big picture level this opens the realm of literature

around quality in HE in relation to its purpose whereby employability is arguably an

indicator of HE quality (Harvey, 1998). Frazer (2014) unpacks the concept of quality in

HE by means of three components: goals, the process in achieving these goals and the

actual result in relation to that achievement. The best that can be done is for

experienced people to make judgments about each of these three aspects and the

interactions between them. The goals, processes and achievements can refer to

institutions, to parts of institutions (faculties, departments, course teams) or to

individual researchers and teachers." (Frazer, 2014, p. 103) Frazer further asserts that

quality in HE is about scholarship and learning (what students know, can do and their

attitudes) and there is no single way of either defining or measuring quality in a HE

context due to its importance and relevance to different stakeholders and their

perspectives. "The concern for quality in higher education comes from several

quarters: 1. Government, which in most countries is the paymaster 2. citizens, who pay

taxes to government 3. employers of graduates 4. students and their parents 5. teachers, professors and managers in HEI's.

Harvey & Newton (2004) report on four types of evaluation that can take place around the quality of HE: accreditation, audit, assessment and external examination/validation. Accreditation is concerned with quality standards that are set out by the accrediting agency (public or private). Audit concerns the practice of fact finding around the processes a HEI has in place and what outcomes it realizes. Assessment refers to the evaluation of these practices against a certain standard (such as for instance, but not all inclusive accreditation standards). External examination/validation concerns the testing of the ability of learners on a standardized test across different providers of HE for the purpose of identifying the quality of HE provision each of the institutions can claim. Frazer (2014), even though acknowledging some value in the latter practice, is critical of this due to the different interpretations around quality achievement in terms of for instance effectiveness, efficiency, level and standards.

When evaluating the output of the HE value chain, graduate employability can be seen as a – perhaps a most important - quality measure for the graduate-product a HEI produces (Reichelt & Schreier, 2010; EUA, 2013; Eurydice, 2014). The purpose of quality evaluation also requires some attention in this context. Quality evaluation is often presented in the same breath as terms such as accountability, control, compliance and improvement. As much as the first three are relevant, literature attests of the often secondary treatment 'improvement' enjoys in terms of the purpose. This is evidenced through the study of how data is used in educational environment by Schildkamp, et al (2013) which reports on the lack of

improvement actions as results of data use. The focus on accountability and compliance in a quality evaluation context is furthermore referred to as dangerous by Ehren & Swanborn (2012) and Hamilton, et al (2009) as it holds the risk of 'T&L for the test', leaving little consideration for the wider context in which employability is arguably rooted. The purpose of quality control induced by public policy is argued to hold the potential drawback of not recognizing the contextual nature in which HEIs and their learners are set in relation to employability when developing standards of academic and professional nature (Harvey & Newton, 2004). Harvey (1998) recognizes the value of the government's role in the overall evaluation endeavor and points at the stakeholders' rights to information and a minimum standard of service. Barrow (1999) argues the value of institutional management alongside the state through a form of surveillance to ensure meeting the requirements. Jackson (2009) report on the potential negatives effects of excessive regulatory control and external scrutiny in a HE endeavor and supports the point of Williams (1996) that national evaluation should be seen as an opportunity for development, not an ordeal that needs to be suffered.

2.2.4.1 Towards improvement

In this light, the argument that improvement needs to be put much more in the forefront of purposeful quality evaluation, is clear (Harvey & Newton, 2004). Harvey (1998) asserts the idea of auditing HEIs in order to develop improvement action plans that are informed by staff and students. THES (2002) and Oliver (2010; 2011) also argue the purpose of quality evaluation to be the enhancement of HE and particularly learning rather than mere compliance with governmental regulations. Harvey (1996, 2001, 2002a, 2002b) calls indeed for the identification of all possible opportunities for employability development in HE as a

starting point towards improvement and asserts the need to give attention to internal

processes and motivators as catalysts for the enhancement of how HEIs address

employability. Parry & Debowski (2004) argue the need for more systematic

evaluation through the inclusion of any activity within the HE offering to demonstrate

its address to employability. Mayur & Johnson (2014) strongly assert the focus on

improvement in their system approach towards employability. They call for the

calibration of the learning programme inclusive of a feedback system that covers both

academic and career related performance to inform the design of the curriculum and

to communicate expectation of performance towards learners and faculty. The

literature argues for an enhancement led approach that considers structures,

mechanisms, procedures, action cycles (inclusive of clearly designated

responsibilities) and clear information flows (Harvey & Newton, 2004; Oliver, 2010,

2011; THES, 2002; Bath et al, 2004; Mayur & Johnson, 2014). This approach must

further also be research informed (Newton, 2000, 2002, 2003; Pegg, et al, 2012;

Harvey, 2004; Frazer, 2014) and evidence based (Pegg, et al, 2012; Lowden, 2011;

Harvey, 2001; Yorke, 2004; Cummings, 1998; DEST, 2002; Barrie, 2005, 2006;

Davies et al, 2000). The literature furthermore argues for the need to shift from

reporting on quality assurances processes towards more concrete evidences of

outcomes that can be used to validate the curriculum on the basis of alignment

between the espoused goals of the HEI in an employability context, its enacted efforts

on the matter and what is experienced by the students (Bath, et al, 2004; DEST, 2002).

This practice would allow for the identification of gaps, identification of outcomes

that were not planned and open the dialogue towards improvement on the basis of

concrete findings (Bath, et al, 2004 and Drummond, et al, 1998).

2.2.4.2 Measuring to evidence the address to employability

The issue around measuring employability is widely recognized in the literature (Yorke, 2004; Hager, 2006; Van der Heijde & Van der Heijden, 2006; Schildkamp, et al, 2013; Barrie, 2005, 2007; Bath, et al, 2004; Pegg, et al, 2012). Even though according to the work of Marzano (2007) learning can be measured, the measuring of learning for employability seems to be not as straightforward as it may seem due its multidimensional nature and the fact that there is up to now no formal 'index of employability' (Pegg, et al, 2012). The remaining opacity around the competencies (the debate around the semantics of skills as presented earlier in this work) and their often overlapping nature makes the measuring of these competencies difficult to say the least (Hager, 2006; Barrie, 2004, 2005, 2007; Halfhill & Nielsen, 2007). Bridgstock (2009) and Pegg, et al (2012) report on the common practice of measuring graduate destination data, at respectively national and institutional level, to evidence and evaluate HE efforts around employability, however the use of these is contested by Harvey (2001) as simply not good enough to present a fair representation of the impact HE has on its graduates' employability. Destination data are argued to be too simplistic to be the indicating factor that bridges the theoretical construct of employability with its measurement. Gibbs (2010) furthermore notes the long term nature of employability in the context of measurement as another issue since employability concerns a life-long learning journey that does not develop equally fast for each individual. The individual nature of achievement around employability (Harvey, 2001 and Yorke, 2004) is another source of complexity in relation to measuring the construct. Lowden, et al (2011) and Cardoso, et al (2014) assert that to measure employability mere consideration of HEI's activities is short sighted but in

light of this study that discussion extends beyond the scope of what is aimed to be addressed and will therefore not be elaborated on.

When evaluating how HE addresses employability this study gives concern to the transformational process HEIs offer their learners. Pace (2012) contends the need to measure indicators of a process or an output in a systematic way to allow for a review process and identify good practice or shortcomings. When viewing the transformation process in a system of input – process – output whereby the process is a series of value adding transformations that take place following the fundamentals of a value chain, it is clear that in order to evidence how a HEI addresses employability with consideration for the evidence based, research informed, enhancement lead approach argued above, there is a variety of opportunities for a HEI to draw proof towards evidencing its efforts. In terms of the presentation of documentation that suggests the espoused position the HEI takes towards employability in the form of strategic and operational documents and its commitment to quality assurance processes, the use of documentation on espoused goals and objectives is critiqued Harvey & Newton (2004) as not strong enough to argue quality. The critique posits that policy implementation rarely strokes with what was anticipated due to the differences between managerial and non-managerial level reality. Newton (2002) further points at the need for consideration of the subjectivities in terms of interpretation of and interaction with quality policies between managers and those they manage. The call from the literature goes towards harder evidence related to successful outcomes of the transformation process (Cummings, 1998; AUQA, 2002; Oliver 2010. 2011; Pegg, et al, 2012; Bridgstock, 2009; DEST, 2002; Bath, et al, 2004 and Barrie 2005). In terms of measurement, data is the typical vehicle

used. The inclusion of all stakeholders' opinions in the review of HE offerings towards enhancement is also argued as important in quality evaluation (Harvey, 2002b; Karns, 2005 and Bath, et al, 2004). On this basis, it can be argued that in this context there are three general categories of data sources that can be argued useful in the pursuit of a quality transformational HE system for graduate employability and the evaluation thereof: the student, the curriculum (inclusive of the faculty and support services) and the external environment (particularly employers and professional associations).

2.2.4.2.1 Data Sources

Students

Data on students considers demographic data that is traditionally housed in a student management system as common practice in a HEI of which the registration office is the custodian. A second set of student related data is related to the learning process in itself, or which can be referred to as development data, allowing for the evaluation of the progression of students in terms of knowledge acquisition and application (Butler & Rubenstein, 2004; Drummond, et al, 1998; DEST, 2002). This of course depends on the manner in which the HEI approaches the integration of employability into the curriculum through an embedded or a bolt-on approach as discussed in section 2.7.1. of this study. A third set of data that can be drawn from students is the evaluation of the learning experience throughout and at the end of the academic journey in relation to how they feel the learning experience has contributed to the development of employability (Bath, et al, 2004; Rothwell, et al, 2009; Hinchliffe & Jolly, 2011). Concerning evaluation throughout the educational journey, Krans (2005) reports on the tension between the evaluation of innovative practices that may be highly demanding towards the learners, and the

students' perspectives around the learning experience. The argument made is that if a course is perceived as too complex or highly demanding it may not receive favourable evaluation by its participants, even though it may hold high potential towards developing employability. The studies around self-perceived employability (Rothwell & Arnold, 2007; Rothwell, et al, 2009) and Graduate Identity (Hinchliffe & Jolly, 2011) can be of particular interest in relation to variables that are of interest to investigate. This can further include data around students' engagement with support services around employability as discussed before. The final set of data, and this is arguably the most traditionally used data around employability that is drawn from students, is destination data (Bridgstock, 2009). This data reports on the employment status of graduates and is typically collected after three and six months of graduation, inclusive of information around remuneration (Pegg, et al, 2012). Tracking graduates throughout their whole career is arguably difficult and at the same time perhaps an overestimation of the impact the HEI has on employability of the graduate in light of the fact that employability is a life-long journey that is influenced by a variety of contextual factors arguably outside the realm of the HEI's reach of influence. In this context Gibbs (2010) reports that, at best, anecdotal evidence can be found. In terms of qualitative data, the work around portfolios to compile evidence around employability (as discussed earlier in this work) is also presented as valuable to make claims on the impact of the HE transformational process (Oliver & Whelan, 2011; Mittendorff, et al, 2008; Baume, 2001 and Yorke & Knight, 2006). Oliver and Whelan (2011) in particular argue for the potential of some portfolio applications to link with quantitative and qualitative metrics around learning.

Curriculum

Current practice around data on the curriculum and employability, aside from documentation that makes up the curriculum with statements of content, learning outcomes and teaching philosophies, does not go further than the mapping of curricular activities against factors that influence employability (Pegg, et al, 2012 and Oliver, 2010, 2011). Bath, et al (2004) argue for the moving beyond mapping towards data the directly evidences the development of employability related competencies. Existing options here are on the one hand testing at pre-entry and post-exit stage (Australian Council for Education and Research, 2001) but this practice can be critiqued for likely not presenting the discipline specific nuances of application and on the other hand reliance on the inclusion of employability in formal curriculum assessment practices. The latter depends heavily on whether these employability factors are in fact assessed, whether student achievements are recorded, whether there is an institutional framework that governs this and the extent to which these records can be aggregated at an institutional level (Bath, et al, 2004). Harvey (2002b) argues for the auditing and stockpiling of good practice within the institution to build capacity for research and evaluation of what is happening with the eye on developing knowledge that may induce improvement of the current address. In terms of support services as part of the co-curriculum, it has been argued before that there should be a record of the occurrence and attendance of employability related initiatives.

The external environment

Data on the external environment concerns labour market intelligence for particular job fields or general labour market reports

that indicate the future development of the economy locally and globally, which can inform the programme offerings, curriculum design and curriculum development. Its value is addressed in detail in the employer engagement section of this study. The work of Jackson (2009) and Jackson & Hancock (2010) provide a solid account for the requirements of industry in a business context. The inclusion of professional associations in relation to professional accreditation is strongly argued as good practice (Kolster et al, 2014) and its standards can be used as metrics for the evidencing of quality assurance around employability development (Pegg, et al, 2012).

2.2.4.3 Towards self-regulation

Yoke (1994) argues in a quality context of HE for a self-regulating approach with a 'light' complement of external review. QAA (2010, 2014) proposes the use of a robust and effective internal audit and review mechanism whereby the institutional focus is on self-evaluation with an appropriate level of external scrutiny, following general guidelines in quality management and Quality Assurance practices in the UK. DEST (2002, 2005) argues, in the Australian HE context, for a similar idea of self-regulation by contending that standardized measures for every institution can be inappropriate on the basis of divergent institutional missions, foci and philosophies around HE provision. Harvey & Newton (2004) report on the currently doubtful methods of approaching quality evaluation in general since they lack openness and do not inspire for internal dialogue. The argument of self-review and self-regulation complemented with appropriate external oversight and surveillance seems a viable option to address these concerns. It must be made clear that this does not mean that a HEI will work in isolation of its external stakeholders. Consultation with employers and professional associations for instance has been

argued earlier in this work as highly important to effectively address employability as part of the educational journey the learners embark on. Harvey (2002b) finally argues for the inclusion and regular review of all stakeholders' opinions (internal and external) and the data drawn from different sources to be disseminated to the relevant parties in order to effectively hold potential for review and enhancement of the transformation process.

2.2.5 Leadership

Considering leadership in HE with employability as a 'newly' asserted goal, the literature that tackles leadership directly in this context is scarce. At best this is addressed through mostly superficial allusions around strategy within the more general literature around employability. Moving forward, leadership in the context of HE and employability will be discussed by means of focusing on leadership for change within HE and making linkages with employability where appropriate and logical. The overall assertion around leadership and HE for employability would argue for leadership towards change through an organizational culture that weaves the goal of employability in the very fabric of the HEI through the development and implementation of a strategy that is more market driven and responsive to the current economic and societal environment. It is further argued that the most widely adopted practice in HE of transactional leadership requires review to give way for leadership that is transformational to realize the change needed to re-align HEIs to the new realities of the 21st Century. In the realization of this change a HEI must be considerate towards its strategy (Pegg, et al, 2012; Green, et al, 2009; Basham, 2012; Farhan, 2013; McRoy & Gibbs, 2009; Hernandez-March, et al, 2009; Marshall, et al, 2011; Thompson, et al, 2005; Chatterton & Goddard, 2000; Oliver, 2010, 2011;

Hislop, 2009; Bass & Riggio, 2006; Morales, et al, 2011; Mayur & Johnson, 2014),

the institutional culture (inclusive of its structure) (HEA, 2011; Klenowski, et al, 2006;

Pegg, et al, 2012; Barrie, 2004; Nauta, et al, 2009; De Vos, et al, 2011; Green, et al,

2009 and Hislop, 2009) and the type of leadership its leaders adopt in realization of

the change (Basham, 2012; Farhan, 2013; Al Husseini, et al, 2013; Bakar, 2014; Lo,

et al, 2009; Hashim, 2010; Sadeghi & Zaidatol, 2013) to position itself appropriately

towards tackling the development and assurance of employability of its graduates.

In general, leadership can be defined as "the process of persuasion or

example by which an individual induces a group to pursue objectives held by the

leader or shared by the leader and his or her followers" (Gardner, 1990, p.1) or "a

process of social influence in which one person is able to enlist the aid and support of

others in the accomplishment of a common task" (Chemers, 2000, p.27). This makes a

clear distinction between leadership and management, giving however consideration

that one without the other would not be conducive towards organizational success.

2.2.5.1   Strategy for Employability

The literature asserts the need for a strategy that encompasses the

entire education and transformation process (Mayur & Johnson, 2014; Oliver, 2011;

HEA, 2011; Eurydice, 2014). Massimiliano (2004) calls for the need to decentralize,

create a culture of continuous learning, the development of change agents that help to

manage and maintain efforts for change and the attention to the individual as well as

structural change in the organization. Mayur & Johnson (2014) argue the need for such

strategic approach to be internally consistent and primarily focused on the

requirements of the graduates' destination which can only be realized through an

integrated approach to avoid the currently often 'siloed' efforts (if any) in HEIs. Making

graduate employability a strategic goal of the HEI is an imperative starting point for

the realization of it as an formal objective (HEA, 2011) hence giving it focused

attention rather than expecting it to be a natural outcome of any HE academic offering

as argued by some (Barrie, 2004). This possibly gives rise to the need for

reconsideration of the HEI's mission in meeting the demands for and of HE in the 21st

Century and the need for a well-articulated vision statement towards all stakeholders

of academia (Marshall, et al, 2011). McShane (2001) however points at leadership

vision as the embodiment of the organization's corporate meaning through its values

and goals, rather than a mere articulated statement.

To devise an appropriate strategy to tackle employability in particular,

consideration must be given to both internal and external stakeholders of the HEI

whereby opportunities to increase institutional dynamism in the face of a highly

dynamic external environment must be scoped both outside and inside the HEI (Bakar

& Mahmood, 2014).

In addition to the previous discussion in section 2.7.3 of the potential of

including employers in the development of a HE offering, McRoy & Gibbs (2009)

report on the clear evolution of the development of stronger ties of HEIs with industry

in response to rising demands around quality and accountability by HEIs'

stakeholders. Hernandez-March, et al (2009) further allude to the higher likelihood of

successful production of educated and skillful individuals by HEIs when effectively

interacting with business and industries. HEA (2011) points at the importance of

developing strong ties with accreditation agencies from a quality assurance point of

view. James, et al (2004) and Wenger, et al (2002) mention the value of engaging in

networks towards the development of communities of practice as a strategic

consideration to address employability.

In terms of considering internal stakeholders, Mayur & Johnson (2014)

argue the need to give attention to the interaction between the organization of the HEI

(administration and management), the practitioners (the faculty and staff) and the

students in order to realize a strategy that is appropriate to address employability. In

this, the importance of professional development of staff and faculty to build capacity

and the commitment of extra resources or development of existing structures and

training is pertinent (Klenowski, et al, 2006; HEA, 2011; Oliver, 2010, 2011; Mayur

& Johnson, 2014) as the required change may be met with resistance which needs to

be addressed by strategies beyond the mere communication of the new organizational

direction (Kotter & Schlesinger, 2008). Lawton (2010) argues it shortsighted to expect

faculty to be knowledgeable to address T&L for employability without training and

development. Similarly, Schiersman, et al (2012) argues for the need for professional

development in the area of career counseling and career services. Nauta, et al (2009)

also pointed at the strategic value of fostering an organizational culture that strongly

supports individual development of practitioners in order to make them more

receptive towards the idea of employability and its relevance. Considering the

argument made before whereby the student is seen as an active participant in the

transformation process, the effect of an organizational culture that promotes

competency development is argued to hold positive potential for all internal

stakeholders (De Vos, et al, 2011).

The consideration of both internal and external stakeholders towards

strategy development and implementation needs to be advanced in a participative

approach following the argument that in a rapidly changing environment highly centralized management is ineffective and organizations that are well informed of market realities and appropriate processes, are more likely to be effective (Basham, 2012). Thompson, et al (2005) note the critical value of strategic planning to address questions around the institution's current state, its future direction and how to arrive at the desired destination. Leadership would therefore be argued to play a crucial role in placing employability at the heart of the institution's purpose by means of clear articulation of what employability is to all its stakeholders, the setting of employability relevant KPI's and the creation of capacity for the institution in its entirety to realize this strategic goal.

2.2.5.2   Leadership for Change in HE

In light of the clearly reported need for HEI's to change (be it radically or incrementally) towards more effective alignment with the changed – and constantly changing - environment of the 21st Century, leaders are required to act as change agents to effectively redirect the institution towards success (Bass, 1997; McShane, 2001; Julsuwan, et al, 2011). Organizational leaders are in a unique position of power and potential influence to manage the resources and support improvement and change (Bento, 2011; Gappa, et al, 2007; Yukl, 2010, 1989). Hislop (2009) argues for the importance of organizational leadership towards driving change with a particular focus on the creation of a climate that is conducive to innovation whereby innovation is argued by Bodla & Nawaz (2010) to be of high importance for institutions of learning such as HEIs. Nayyar & Mahmood (2014) point at the necessity for HEIs to be innovative in their response to the challenges presented by the current knowledge economy. McRoy & Gibbs (2009) report on the responsibility of leaders in HEIs to

effectively address the needed change whilst maintaining quality and academic integrity. Julsuwan, et al (2011) assert the necessity of a clear vision towards the development and improvement of HEIs to address the current changed HE landscape whereby both communication and implementation are posited as fundamental to the process of change (McRoy & Gibbs, 2009) with strong consideration for the inevitable emergence of resistance to change (Kotter & Schlesinger, 2008). Farhan (2013) confirms this by asserting the need for the right type of leaders who exhibit efforts towards the realization of the right vision and are able to see beyond current challenges linked to resource availability (inclusive of funding), inertia of institutional structures, globalization, competition and technology.

As in every organizational context, leaders of HEIs hold a dual role that encompasses responsibilities of planning and executive nature (Basham, 2012). The planning role comprises on the one hand of capacity building through maintenance/development of existing resources and the creation/development of new ones. On the other hand it includes the initiation of projects in realization of a clear vision by means of persuading all relevant actors involved and organizing appropriate institutional structures considering both internal and external resources. The executive role of the leader revolves around goal definition and attainment, delegated authority to administrative action, operating a communication system that links the entire academic community and representing the institution to its many publics. In both roles (as planner and executer) the leader acts as the liaison between the Board of the HEI and the practitioners in the HEI (faculty and staff) to assure conformity with policies and academic standards of good practice as set by the institution.

Even though traditionally HEIs have been run by leaders adopting a transactional style (Astin & Astin, 2000) stooled on archaic leadership models of top down, autocratic and command/control nature (Ryan, 1999), the literature around effective leadership in HEIs under conditions of change and diversification favours the transformational leadership style as the more viable approach (Kezar, et al, 2006; Carducci and Contreras-McGavin, 2011; Basham, 2012; Farhan, 2013; Al-Husseini et al. 2013 and Bakar & Mahmood, 2013). The terms transactional and transformation leadership were coined by Burns in 1978 on the basis of examining leadership from a perspective of styles, behaviours, traits and contingency. Transactional leadership can be described as centered around exchange of contingent rewards and management by exception (Burns, 1979). It is further driven by a sense of control for output in an attempt to maintain a predefined status quo based on a highly structured understanding of managerial authority (Connor, 2004). Transformational leadership on the other hand is value driven, responsive to change, stooled on shared values, norms and principles including the encouragement to learn from others and advocating for performance beyond expectation (Burns, 1979; Bass & Avolio, 1993). Transformational leadership can be identified around four components (Bass, 1985): idealized influence, inspirational motivation, intellectual stimulation and consideration for the individual.

Burns (1979) presented both styles as polarized opposites, however later research suggested reconsideration of this view towards a more complementary nature of both styles (Bass, 1990; Bass and Avolio, 1993) whereby one is unlikely to effectively function absent of the other due to situational considerations. On the basis of evaluation of outcomes however, Spinelli (2006) reports on higher effectiveness of

transformational leadership as compared to transactional leadership. Basham (2012), in his study on transformational leadership in HEIs, reported on the ambiguity of clear differences between transformational and transactional leadership further arguing for a mix of transactional and transformational leadership when pursuing the realization of change.

Bass (1997) posits the unlikeliness of transformational leadership to be adopted in organizations that suffer from constrictive levels of inertia due to rigid policies, procedures and political trade-offs. More recent studies however report on the potential of transformational leadership in both public and private sectors (Al Husseini et al, 2013; Bakar and Mahmood, 2013) whereby the former typically evidence the limiting circumstances Bass (1997) referred to.

The argument to favour transformational leadership in realization of change in a HEI, and therefore being the more viable option for its institutional address of employability, seems however strong for number of reasons:

1. Transformational leaders are prone to empower teams of delegated authority with the eye on the creation and realization of direction, mission and vision whereby this participative approach is arguably more likely to establish true buy-in by the subordinates than a mere focus on efficient running of the institution as per the transactional approach (Basham, 2012). Transformational leaders are "agents of change [who] develop a vision for the organization or work unit, inspire and collectively bond employees to that vision, and give them a can-do attitude that makes the vision achievable" (McShane, 2001, p. 427). They inspire to place the needs of the team above those of the individual (Early and Davenport, 2010; O'Reilly et al, 2010).

2. Transactional leadership risks the lack of perspective around the realization that change is necessary as induced from across disciplines (Bass et al, 2003) whereas transformational leadership is argued to be the viable course of action towards the call for a sense of entrepreneurialism in today's HEIs in response to the higher demand for quality and accountability by its stakeholders on the one hand and the need to become more market oriented to improve competitiveness and fitness for purpose in the dynamic economic and societal reality of today (Farhan, 2013). Transformational leaders do not shy away from injecting creative ideas and experimentation when responding to unknown or new environmental circumstances (Bass & Riggio, 2006).

3. Transformational leadership has the ability to elevate the personal values and self-concepts of its followers, increase determination and novel idea generation in light of change being perceived at first as an obstacle (Rafferty and Griffin, 2004). Unlike transactional leadership, it gives consideration to emotional and attitudinal concerns of its followers, resulting in respect for, trust in and loyalty to the leader (Northouse, 2007) and subsequent improved performance in general (Yukl, 2010; Ismail et al, 2012; Northouse, 2010; Aziz et al, 2013) and in a HE context in particular (Lo et al, 2009; Sadeghi and Zaidatol, 2013). Transformational leaders furthermore lead by example thus operating as rolemodels for the followers (Barbuto, 2005; Yukl, 2010).

4. Transformational leadership holds higher potential than transactional leadership to strengthen the capacity of employees by making resources and knowledge available (Bertocci, 2009) which in turn has been found to potentially

catalyse innovation as it intellectually stimulates, motivates inspirationally and instills self confidence in the employees (De Jong & Hartog, 2007; Bass & Riggio, 2006).

3   Maturity Models

3.1   System thinking

The underpinning theory around modeling as a representation of reality can be traced back to the work of Ludwig Von Bertalanffy around General Systems Theory as an extension of System Thinking (Von Bertalanffy, 1951, 1956; Boulding, 1956). This was further advanced by Banathy whose work will be used as a general guide for the introductory part of this section.

A system has been described by Banathy (1997) as the configuration of interconnected parts that are linked to each other by a variety of relationships, whereby both the parts and the relationships are acting as a whole. General System Thinking is a term that identifies the approach to the building of theoretical models that positions itself between field specific theories and pure mathematics (Boulding, 1956). System thinking and consequently System Theory is considered with the theory around how different components interact with one another as part of a system and is to be argued as fundamental to the concept of organizational theory (Senge, 1990), often viewed through an interdisciplinary and holistic lens. Von Bertalanffy also made note of the self-correcting nature of systems in case of the presence of feedback loops showing clear parallels with the concepts of human learning and organizational learning wherein individuals and organizations can be described as complex adaptive systems (Bennet & Bennet, 2003). The work of Joseph et al (2002) discusses the value that System Theory has brought to the transformation of education and states that "the crux of systemic change is found in systems design, which is a process that engages

stakeholders in conversations on their vision, ideals, values and aspirations with the goal to intentionally create their ideal educational system" (p.379 - 380).

3.1.1 Investigating a System

In terms of System Theory, it is imperative to recognize the interdependence between groups of individuals that are part of the system, the structures that make up the system and the processes that are running in the system. This logically implies that organizations and the environment in which they are vested also hold a link that bears reality to complexity and interdependence. Von Bertalanffy (1951, 1956) further argued, and this was reiterated by Senge (1990), that the analysis of a system's constituent elements in isolation cannot reveal understanding of some of the properties of the system as a whole. Banathy (1997) concurs that the relationships between components that make up a system are a fundamental basis for the Systems View and that all systems have common patterns, behaviours and properties (be it at times at very abstract levels – Boulding, 1956).

Banathy (1997) progresses thispoint into the fact that patterns can be used to model the reality and that the analysis of the patterns, behaviours and properties allows for insight into complex phenomena. He further identifies four domains or aspects worth of consideration in terms of systemic inquiry: philosophy, theory, methodology and application. The former two consider the knowledge component in terms of the system, whereas the latter two pertain the actionable dimension of the enquiry. The philosophy aspect concerns the world view on systems with they eye on finding out how things work rather than trying to define what things are. The theory dimension relates to a set of interrelated principles and concepts that apply to all systems by transcending boundaries set by disciplines. The

methodological domain covers models, strategies, methods and tools used for the representation of the system of concern without adhering to one single methodology that is prescribed by a discipline but rather considering a selection of what best fits the system type, its purpose and nature of inquiry dependent on the situational context of the problem that is being investigated. On the one hand this aims to produce systems knowledge through identification, characterization and classification of systems in their entirety and on the other hand to apply systems theory and thinking towards the analysis, design and development of complex systems through identification, selection and characterization of methods, strategies and tools to operate within the system. Finally systems application considers the use of the each of the former three aspects of systemic inquiry into a functional context whereby consideration is given to the type of system and the specific domain of inquiry (system description, analysis, design, development or management).

3.1.2 Types of Systems

Banathy (1996) proposes two general types of systems: natural systems and designed systems. Natural systems are 'born' out of nature and the larger universe whereas designed systems are man-made creations. Designed systems can further be categorized in four types: engineered-physical systems, hybrid systems (combination of man-made design and nature), conceptual systems (e.g. theories and philosophies codified or modeled) and human activity systems (selection and organization by humans of sets of activities towards the attainment of a purpose coming to pass through e.g. organizations). Human activity systems can finally be categorized in five sub-systems that are progressively more 'open' rather than closed, systemic rather than mechanistic, pluralistically purposeful rather than unitarily purposeful and complex

rather than simple as presented inTable . Banathy (1997) reports educational systems to be categorized as possibly deterministic, purposive or heuristic.

Table 7: Human Activity Systems

	Closed vs open	Mechanistic vs systemic	Unitary vs pluralistic purpose	Simple vs complex
Rigidly controlled	Closed	Fully Mechanistic	Unitary	Simple
Deterministic	Some openness	fairly mechanistic	Unitary	More complex
Purposive	More open and reactive to environment	More systemic	Unitary	Often very complex
Heuristic	Open and intensely interactive / co-evolving with environment	Systemic in functions and structures	Somewhat pluralistic	Complex

Table 7 (Continued) : Human Activity Systems

	Closed vs open	Mechanistic vs systemic	Unitary vs pluralistic purpose	Simple vs complex
Purpose seeking	Open and co-evolving with their environment	Systemic throughout	Fully pluralistic	Complex

In human activity systems, purpose is formulated by people in the system and by interaction with the environment. Functions are taken up by the components that form the structure of the system. Processes sustain the relations among the components in a regulatory way with the eye on its purpose. The system as a whole is to be considered as a component of the environment (a larger system – supra system) in a symbiotic relationship (dependence, contributive, constraining and enhancing).

3.2 Modeling

With reference to the note made earlier around the importance of relationships between system components, the development of models to represent a system requires the identification of relationships among general principles of the system (interaction or integration of related concepts that are common to the system) to result in an organized description or representation.

Models operate as frames of reference in attempts to analyse and discuss a system. Models can be seen as mental images schematically organized to represent

general systems, their concepts and principles. Through own interpretation (perception of the world) the general model can become specific and describe a specific system in the form of an image, normative description or description of future system created by design.

In terms of creating a systems model, Banathy (1996) suggests an iterative approach between two general stages whereby the continuous cycling between the two stages continuously develops one's capacity for system inquiry. In a first stage he posits the value of using three 'lenses' to view a system in light of trying to model the system from a general perspective: the system-environment lens, the function-structure lens and the process lens. The system-environment lens allows for the exploration of the interaction (relations) between the system and its environment/context. The functions/structure lens allows for the understanding of what a system is at a certain point in time. The process lens helps to clarify the system's behaviour through time. To arrive at a comprehensive view of the system each of the three lenses needs to be considered in order to advance to the second stage of transforming the general view into a model that is context specific.

To realize the representation of a system, Joseph, et al (2002) (following the recommendation of Banathy (1991)) point at the importance of process values and process activities. Process values are "the intrinsic qualities that ground and guide the collective set of beliefs that we share as we travel through a journey in creating a better [educational] system for our communities" (Joseph, et al, 2002, p.380). Process activities are "specific steps that a community should follow when undergoing a systemic change effort" (Joseph, et al, 2002, p.387).

3.2.1 Modeling for Complexity

Complexity can be characterized by the pertinence of the relationships between different entities that form a whole of which the behavior is unpredictable (Von Bertalanffy, 1956; Banathy, 1995 and Snowden & Boone, 2007). Following Snowden & Boone's (2007) categorization of systems and problems, four categories of nature can be identified: simple, complicated, complex and chaotic. These categories generally distinguish themselves from each other on the basis of clarity around the relationship between its components, the effects those have on one another and the predictability of the system's behaviour.

A HEI can be considered as a complex system for a variety of reasons. First of all it concerns interactions between people which are, following Bennet & Bennet (2003), complex adaptive systems. Secondly, a HEI is nested in a context that in itself is also complex due to the variety of stakeholders and their, at demands towards the institution, that are often of very different nature as discussed throughoutthis work. Thirdly, HEIs and the HE landscape is set in a dynamic environment whereby the realities have changed and are arguably constantly changing be it from a professional, economical or societal point of view (Sook, et al, 2012; Tomlinson, 2012 and Green, et al, 2013). These three reasons can be considered to be a reasonable argument to assume a HEI as complex and even, considering the changes that have been observed in how they respond to their environment, a complex adaptive system.

As opposed to complicated problems that often call for complicated solutions through the application of expert knowledge and good practice, complex problems, often found in the realm of social and human sciences, call for a systemic

method to arrive at a solution. Since there are several points of view that need to be taken into consideration, and since the links between the different subsystems that make up the overall system are of critical importance to understand what is going on, a modeling approach to attempt a presentation of the reality is deemed appropriate. The probe – sense – respond approach (Snowden and Boone, 2007) allows for an understanding of the relevant elements in the system, their relation with each other and the recognition of the value of emergent practice.

3.3   Maturity Modeling

In this section the approach of maturity modeling is discussed in order to clearly introduce the type of solution this research aims to develop. This section will present a brief background to maturity modeling, elaborate on the concept of maturity modeling itself, outline the purpose this approach may serve, identify and describe the elements that make up a maturity model, present several approaches to developing maturity models and finally sketch the some of the current uses of the modeling approach in a HE context.

3.3.1   Background / Concept

Even though the literature suggests the general idea around maturity modeling goes back to the first half of the 20th century, the formal introduction of the concept, in its form on which we build for this study, occurred in the late 70's by the work of Nolan (1979) on maturation of the processing of data and the work of Crosby (1979) addressing quality management through a quality management maturity grid. It was however not until the early 90's that maturity modeling gained its recognized place in the literature with the development of the Software Capability Maturity Model (SW-CMM) in the field of software development at the Carnegie Mellon

University contracted by the US Department of Defense, to be later adapted to the Capability Maturity Model Integrated (CMMI). Much of the literature around maturity modeling makes reference to the CMM or CMMI as a foundation for the development of new maturity models to address over 20 different domains with software development and engineering being the field where the practice is most highly reported (De Bruin, et al, 2005; Wendler, 2012 and Paulk, 2009). Becker et al (2009) critique the notion of maturity modeling around this point as they argue that the CMM(I) as a foundation is too often too easily adopted without much thought and reflection on whether this is appropriate, resulting in a plethora of often too similar models.

Wendler (2012) further reports on the level of ambiguity around what 'maturity' in fact is and its importance in the understanding and development of models using this concept. The term maturity is defined in the Cambridge Online Dictionary as 'a very advanced or developed form or state' or as 'the state being mature; fullness or perfection of development or growth; the state of being complete, perfect or ready' by the Oxford Dictionary (Simpson & Weiner, 1989). Paulk et al (1993) refer to the notion of process maturity as the extent to which a process is explicitly defined and effective. Nonaka (1994) introduced the notion of people maturity in relation to their ability to create knowledge and grow proficiency. Gericke et al (2006) advance the idea of object maturity carrying notions around to what extent an object is able to be of a predetermined sophistication level. De Bruin, et al (2005) refer to maturity as an entity's level of competency, capability or sophistication in a particular domain.

What is clear when observing these definitions is that they are all addressing the 'state' of an entity in connection with a certain quality of that state. In the context of maturity modeling, de Bruin, et al (2005) indicate further that the quality of state concerns its enabling power towards the fulfillment of physical or mental tasks against qualified goals. This then of course begs the question how the entity reaches this so called maturity. To answer this question, and hereby addressing a critical point in relation to the development of maturity models, two perspectives vis a vis the manner in which an entity progresses towards maturity are worthy of highlighting. These perspectives are rooted in the works of Nolan (1979) and Crosby (1979) who present the perspective of respectively a life cycle or potential performance. Both perspectives point at a development path, however, their difference has value in light of its influence on application and interpretation of the concept of maturity and maturity modeling (Wendler, 2012). Following the notion of maturation in biology, the life cycle perspective generally assumes that an entity naturally progresses towards maturity in time. In an organizational context, this would generally suggest that a company, given enough time, would naturally evolve into this state of readiness, where it would be competent to realize tasks against qualified goals. The potential performance perspective assumes a state of desire of the entity (moderated by availability of resources, context and competing priorities) towards improvement i.e. higher maturity. This perspective reflects the entity to effectively take action for improvement should it wish to elevate its maturity level, making this a more flexible and opportunistic perspective. Klimko (2001) further notes that what is considered as maturity today, may not be considered as the same tomorrow. McBride (2010) reports on the fact that the latter of the two perspectives (potential performance) seems to be

the most popularly adopted view in the context of progression to maturity. This

perspective is also deemed appropriate for this study, since the contextual and relative

nature of employability and the approach of HEI's towards its achievement is

considered not to occur through natural progression, rather through intentional

choice(s) in context of their reality. This, perhaps in a somewhat 'paradoxal' way, both

concurs with and addresses the critique of Iversen, et al (1999) that maturity models

suffer constraints by internal and external characteristics in terms of its application.

The point made is that, in a potential performance perspective, the maturity model

does not intend to claim that lower levels of maturity are ineffective and hold no

value, but that higher levels are desirable given consideration to the realism and

appropriateness of its realization in context. Andersen & Jessen (2003) further point to

the fact that no organization is ever mature yet that the relevance of the discussion

revolves around degrees of maturity and the subsequent ability to decide and act,

mediated by the willingness of the entity to be involved in the search for higher

maturity and the understanding of the impact both decision and actions carry. Mettler

(2009, 2011) also argue that maturity models are evolving artifacts whose evolution

needs to be reflected on as part of an ever continuing development cycle.

3.3.2 The Elements

Considering the background of maturity modeling and the perspective

assumed, it is appropriate to operationalize the term 'maturity model' and discuss the

parts that typically build such a model. Wendler (2012) reports on the lack of clear

definitions available in the literature, which seems to focus more on the description of

its use and the process of maturation. When observing the pertinent literature around

the subject, maturity models can be described as a set of stages that outline in a

sequential, hierarchical manner the potential growth from low maturity to high maturity in a given context concerning an entity (Becker, et al, 2009; De Bruin, 2005; Mettler, 2009, 2011; Paulk, 2009; Pöppelbuβ & Röglinger, 2011; Röglinger, et al, 2012; and Wendler, 2012). Klimko (2001) states that maturity models "describe the development of an entity over time. This entity can be anything of interest : a human being, an organizational function, etc..." (p. 271). Pöppelbu & Röglinger (2011) further point at the different classes of entities under potential study such as people, objects, processes, assets of capabilities. It is important to note that each of these descriptions represents a manner of achievement of a goal to a certain level of quality, and therefore holds inherent value and effectiveness for the entity (Kohoutek, 1996). Even though a higher level of maturity may be objectively speaking more desirable, that does not mean that its pursuit should be considered a priority or even categorically appropriate. Becker, et al (2009) refer to a maturity model as a model that consists of sequential maturity levels for a class of objects which represent, in discrete phases, an evolutionary path that is anticipated, desired or typical. Gottschalk & Solli-Sæther (2009) place maturity modeling in theories around the stage by stage evolution of organizational capabilities following an anticipated, desirable and logical path of maturation. Pullen (2007) presents a maturity model as "a structured collection of elements describing the characteristics of effective processes at different stages of development, inclusive of suggested demarcation points between stages and methods of transitioning from one stage to another" (Wendler, 2012, p.1318). Considering the above mentioned operationalizing elements, a maturity model can be conceptually broken down in terms of its 'structure', 'descriptions', 'stages', 'characteristics' and 'transitioning'.

In terms of structure, a maturity model presents a hierarchically sequenced series of maturity stages. Each of the stages is described in terms of the organizational structure(s) and activities relevant to the entity under investigation in an appropriately simplified way (Klimko, 2001; Gottschalk & Solli-Sæther, 2009) by using particular characteristics (also referred to as dimensions following Becker et al (2009)) measured by criteria for evaluation based on conditions, processes or application targets. These criteria are used to qualify the dimension similarly how attributes or properties are used to describe an object or variables are used to measure a construct. In light of its progressive nature of level/stage component of a maturity model, the 'scaffolded' descriptions therefore present progressively more detail and complexity moving on the gradient from low maturity to high maturity, indicating the demarcation points between different levels of the gradient. A maturity model further includes implicit indications or explicit statements around ways to transition between the different stages.

3.3.3 The purpose of Maturity Modeling

In terms of its function in application, maturity models are placed somewhere between models strictu sensu and methods (Mettler & Rohner, 2009). Its hybrid nature lies in the fact that it carries the properties of a model in the sense that it offers a description of reality (the model dimension – referring to 'what' the model represents i.e. state descriptions), yet it also allows developmental performance following a structured and systematic way (the method dimension – referring to the 'how' i.e. activities). Particularly the 'model' side of things is critiqued as being too simple and not being able to capture the finer detail of the complex reality (Pöppelbu & Röglinger, 2011), yet the purpose of modeling in itself is to represent the reality in a

more understandable and simpler manner by extracting the pertinent elements given a certain context or situation and allowing for attention to be given to the relationships between the elements that make up that model. By giving consideration to the limitations of the model and the relationships between the elements that make up the model (cf. the discussion around systems presented above) it can be argued that a simplified representation of the reality can be advantageous towards understanding it and making more informed decisions in it.

Following the work of Cooke-Davies (2007) and Kohoutek (1996) maturity models hold in general a variety of benefits. They allow for awareness of the elements analyzed which helps the organization in question - through the audience for which the results are intended - to better understand the finer detail of the issue at hand. This is arguably useful in order to allow for more appropriate appreciation towards potential improvement. This leads to the second benefit of maturity models in their ability to be a frame of reference for benchmarking and consequently potential decisions for improvement. Through the progressively more complex descriptions of the issue at hand decision makers are able to put a topic in perspective through predetermined descriptions of what is possible and required towards improvement. Through careful design considering the context in which the model is used and a strong theoretical foundation around the constructs that participate in the issue at hand (which will be elaborated on in the next section), the descriptions of the processes at each level of maturity are developed with a causal result towards quality in mind. Following the potential performance perspective and the inherent value of each level to its potential address of the issue, ensures an output of a particular level of quality. Careful consideration of the contextual reality and robust theoretical grounding does

not only give greater assurance for quality, it also supports decision makers and process implementers to avoid errors. Finally, maturity models support self-assessment of one owns capacity and capability towards the realization of what is aimed to be achieved. Pullen (2007) points at the benefits of maturity models in relation to the support they can offer at strategic level towards organizing and displaying current efforts and at operational level to help understand decisions and solution that arise from chosen strategic directions.

Maturity modeling can serve in three modes of purpose: description, prescription or comparison (Pöppelbu & Röglinger, 2011). Even though each of these modes generally serves the idea of improvement they are distinct in the way the offer insight in the issue at hand and therefore also require different considerations towards their development. Any of the three modes is subjected to the critique that maturity modeling gives no consideration towards multiple paths of advance (Teo & King, 1997) and that, instead of focusing on a predetermined state, attention should be directed towards factors that catalyse evolution and change. Pöppelbu & Röglinger (2011) refer to the works of Becker et al (2009), De Bruin, et al (2005), Iversen, et al (1999) and Maier, et al (2009) in the explanation of the different modes of purpose.

The descriptive purpose of maturity models allows to generate an assessment that presents the 'as-is' situation, a snapshot in time of the current status of the object that is being evaluated against criteria to determine its current capability. In other words, it serves a diagnostic purpose of which the results are reported to both internal and external stakeholders. A prescriptive purpose reflects a model that not only identifies maturity levels, but furthermore indicates which ones may be desirable and presents courses of action on how to arrive there. Finally, the purpose of

comparison concerns the ability of the model to present benchmarks, based on substantial historical data of comparable entities, against which the company can position itself.

3.3.4 Maturity Model Development

Maturity models have been subjected to critique over the fact that too often their design is considered too lightly, not underpinned by any empirical foundations and poorly documented (Becker et al, 2009; Pöppelbu & Röglinger, 2011). A variety of literature has been dedicated to the assurance of the scientific value of maturity models through discussing principles and practices of rigorous design. In the larger context of design science, building on the work of March and Smith (1996), maturity models can be considered as artifacts that hold utility in dealing with human and organizational challenges. More specifically in the case of maturity models, this utility results in improving problem solving ability through the identification of current capability and - explicitly or implicitly - outlining and improvement path. Hevner, et al (2004) argue the importance of evaluation of both the design product and the design process in design science.

In terms of evaluation of the design product consideration must be given to its quality and its components. The quality relates to the desirable properties as presented by Becker et al (2009): correctness, relevance, flexibility, understandability, efficiency and ease of implementation. Furthermore, concerns arise around validity, reliability and cost efficiency (Simonsson, et al, 2007; Ahlemann, et al, 2005). Evaluation of the components of the model concerns its structure, starting by considerations around the assessed domain and consequently how maturity levels are being assigned in a hierarchy of layers (Ofner, et al, 2009; De Bruin, et al, 2005)

inclusive of the description of the levels, the selection of dimensions and the criteria used (Ahlemann, et al, 2005 and Fraser, et al, 2002).

In terms of design process this refers to the adherence to procedural models and guidelines (Becker, et al, 2009; De Bruin & Rosemann, 2005; Pöppelbu & Röglinger, 2011; Mettler, 2009 and Hevner, et al, 2004).

Hevner, et al. (2004) contribution to the evaluation of the design process consists of seven guidelines for the development of artifacts through design science as presented in Table . These guidelines can be seen as framing the rigor in design and development of maturity models.

Table 8: Design Science Guidelines

Guideline	Description
1. Design as an artifact	Design science research must produce a viable artifact in the form of a construct, a model or an instantiation.
2. Problem Relevance	The objective of design science research is to develop solutions to important and relevant business problems.
3. Design evaluation	The utility, quality and efficacy of a design artifact must be rigorously demonstrated via well executed evaluation methods.

(Continued)

Table 8 (Continued) : Design Science Guidelines

Guideline	Description
4. Research Contribution	Effective design science research must provide clear and verifiable contributions in the areas of the design artifact, design foundations, and/or design methodologies.
5. Research rigor	Design science research relies upon the application of rigorous methods in both the construction and evaluation of the design artifact.
6. Design as a search process	The search for an effective artifact requires utilizing available means to reach desired ends while satisfying laws in the problem environment.
7. Communication of Research	Design Science Research must be presented effectively and appropriately to its intended audiences.

De Bruin & Rosemann (2005) present a six sequentially phased model that consists of scoping the problem, designing the model, populating the model, testing the model, deploying the model and maintaining it. Becker, et al (2009) present an eightstaged procedural model for the development of maturity models (Figure 15). The eight stages are: problem definition, comparison with existing maturity models, determination of a development strategy, iterative model development, conception of transfer and evaluation, implementation of transfer media, evaluation of the maturity model and possibly rejection of the maturity model.
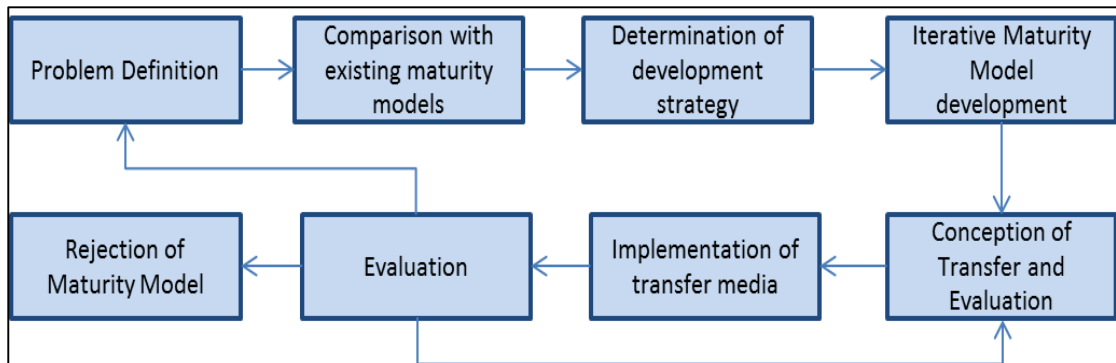
Figure 15: Procedural Model for the Development of Maturity Models

Mettler (2009) presents a procedure that consists of constant iterative cycles between application and development whereby the former informs the latter in the form of a test like process (Figure 16). In terms of the development cycle Mettler (2009) suggests to start with the identification of the need or new opportunity and then engage in a four phased cycle of defining the scope, designing the model, evaluating the design and reflecting on its evolution to then re-engage in the cycle. The application cycle starts similarly with the identification of the need to then engage in a cycle of model selection, preparation for deployment, application of the model and taking corrective action.
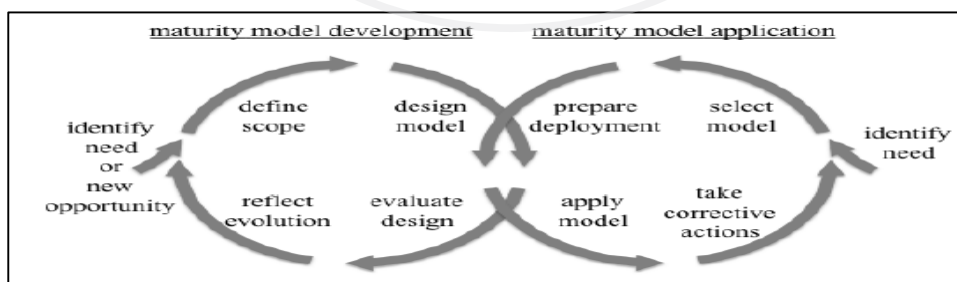
Figure 16: Cycle Approach to Maturity Model Development

For the development cycle Mettler (2009) has identified various decision parameters for each of the four phases in the design cycle as presented in Table . These parameters help the designer consider various factors to support design rigour.

Table 9: Decision Parameters for Development Cycle of Maturity Models

Phase	Decision Parameter	Characteristic			
Define Scope	Focus/Breath	General issue		Specific Issue	
	Level of Analysis / Depth	Group Decision Making	Organizational consideration	Inter org. considerations	Global and Societal considerations
	Novelty	Emerging	Pacing	Disruptive	Mature
	Audience	management oriented	Technology Oriented		Both
	Dissemination	Open		Exclusive	
Design Model	Maturity Definition	Process focused	Object Focused	people focused	Combination
	Goal Function	One - Dimensional		Multi - Dimensional	
	Design purpose	Theory driven	Practitioner Based		Combination
	Design product	Textual descirption of form	Textual Description of form and function		Instantiation (assessment tool)
	Application Method	Self Assessment	Third party Assisted		Certified Professionals
	Respondents	management	Staff	Business Partners	Combination
Evaluate Design	Subject of Evaluation	Design process	Design Product		both
	Time Frame	Ex ante	Ex post		Both
	Evaluation method	Naturalistic		Artificial	
Reflect Evolution	Subject of change	None	Form	Functioning	Form and functioning
	Frequency	Non-recurring		Continuous	
	Structure of Change	External /open		Internal / Exclusive	

Pöppelbu & Röglinger (2011) present design principles by identifying three groups of principles: basic principles for any type of maturity model, principles that apply to descriptive models and principles specifically for prescriptive models. As they present prescriptive models as an advancement of descriptive models, the principles that apply for the latter are also part of the former. The design principles are presented in Table .

Table 10: Design Principles for Maturity Modeling

Group		Design Principles	
Basic	1.1	**Basic information**	
		Application domain and prerequisites for applicability	
		Purpose of use	
		Target Group	
		Class of entities under investiation	
		Differentiation from related maturity models	
		Design process and extent of empirical validation	
	1.2	**Definition of central constructs related to maturity and maturation**	
		Maturity and dimension of maturity	
		Maturity levels and maturation paths	
		Available levels of granularity of maturation	
		Underpinning theretical foundations with respect to evolution and change	
	1.3	**Definition of central constructs related to the application domain**	
	1.4	**Target Group oriented documentation**	
Descriptive	2.1	**Intersubjectively verifiable criteria for each maturity level and level of granularity**	
	2.2	**Target Group oriented assessment methodology**	
		Procedure model	
		Advice on the assessment criteria	
		Advice on the adaptation and configuration of criteria	
		Expert knowledge from previous application	
Prescriptive	3.1	**improvement measures for each maturity level and level of granularity**	
	3.2	**Decision calculus for selecting improvement measures**	
		Explication of relevant objectives	
		Explication of relevant factors of influence	
		Distinction between an external reproting and an internal reporting imrpvement perspective	
	3.3	**Target Group oriented decision methodology**	
		Procedure model	
		Advice on assessment of variables	
		Advice on concretisation and adaption of the improvement measures	
		Advice on the adaptation and configuration of the decision calculus	
		Expert knowledge from previous application	

3.4 Maturity Models in HE

As was mentioned before, maturity modeling has been adapted in a wide variety of fields, inclusive HE. Judging from the literature, the practice of maturity modeling has been used to address diagnostic and improvement practices around curriculum design (Ling, et al, 2012; Drinka & Yen, 2008; Marshall, 2007, 2012; Saulnier, et al, 2008; Walker, 2007; Chen, et al, 2013; Marchewka, 2013; Antonucci, et al, 2004; Neuhauser, 2004; Lutteroth, et al., 2007; White, et al. 2003; Marshall & Mitchell, 2004, 2005), strategy (Yarmohammadian, et al, 2013; Petrie, et al, 2009; Dounos & Bohoris, 2007), IT use (Maria & Fibriani, 2012; Wang & Zhang, 2007) and institutional research (Taylor, et al, 2013) to name a few of the latest developments. In

terms of employability and HE, the only approach that follows maturity modeling is the benchmarking model as a result of a research project chartered by the New Zealand Government (Careers New Zealand, 2012). This model has not been published in a scholarly context and is presented as an option for HEI's in New Zealand to use as a guide. It does not seem to have been institutionalized in any governmental quality assurance approach, nor have results of the model been produced to assess its applicability, utility and ability towards improving HEI's address of employability. Table presents an overview of all the maturity models that have been identified for this literature review.

Table 11: Maturity Models in HE

Application Domain	Reference	Focus area
Strategy	Yarmohammadian et al, 2013	Integrated Strategic Quality
	Petri et al, 2009	institutional Management
	Dounos and Bohoris, 2007	TQM
Institutional research	Taylor et al, 2013	Institutional research capability as competitive advantage
IT use	Maria and Fibriani, 2012	COBIT
	Wang and Zhang, 2007	ITIL
Curriculum	Marshall, 2007, 2012	e-learning program design and implementation
	Marshall and Mitchell, 2004, 2005	e-learning program design and implementation
	Neuhauser, 2004	e-learning program design and implementation
	Ling et al, 2012	processes, standards and policies for development
	Drinka and Yen, 2008	experiential learning
	Saulnier et al, 2008	student centered learning
	Walker, 2007	labour market allighment and accreditation
	Chen et al, 2013	Teaching quality
	Marchewka, 2013	assurance of learning
	Antonucci et al, 2004	ERP
	Lutteroth et al, 2007	teaching practices
	White et al, 2003	measurement and certification
Career Management	Careers New Zealand, 2013	Student, industry and organizaitonal engagement

3.4.1 Strategy

The work of Yarmohammadian et al (2013) proposes four areas using the principle of the Balanced Scorecard for strategic analysis of HE being the customer, the financials, internal processes and aspects of learning and growth. For each of the areas measurable identifiers have been developed such as programme development, promoting university-industry interaction, development of electronic instructional and administrative services, promoting student services, institutional and general research, faculty and staff competencies, standardization of processes and fostering a productive institutional culture. The work of Petri et al (2009) outlines a general model of institutional management of a HEI around requirements for the accreditation of programmes in engineering. Through the use of principles of TQM and CMMI, Dounos and Bohoris (2007) developed a model for control of institutional processes.

3.4.2 Institutional Research

Taylor, et al (2013) present a six dimensional model to address maturation of processes around institutional research. These dimension include strategy formulation, marketing and competitive analysis, institutional management, quality assurance and enhancement, areas of interest and finally independent research and study. The study presses on the use of an integrated approach to institutional research that actively involves the researchers in all dimensions of the model.

3.4.3 IT Use

As can be intuitively expected, for this application domain the CMMI presents the foundation toward the evaluation of IT system performance. The model presented by Maria and Fibriani (2012) uses a combination of the ·Control Objective

for information and related Technology, (COBIT) approach and the Balanced

Scorecard and outlines the advantages resulting from good alignment of IT systems

with organizational goals. By combining CMMI and Information Technology

Infrastructure Library (ITIL) principles, Whang & Zhang (2007) developed a maturity

model addressing the management of IT services in HE towards the support of

learners' academic growth.

3.4.4 Curriculum

Somewhat linked to the previous section of IT use in HE to support

learning, the works of Marshall (2007, 2012) Marshall & Mitchell (2004, 2005) and

Neuhauser (2004) outline by means of maturity modeling approaches a variety of

practices and features around online course design using dimensions such as

development, learning, support, evaluation and organization. Several authors address

the need for development and documentation in terms of curriculum design processes

(Ling, et al, 2012; Drinka & Yen, 2008; Saulnier, et al, 2008; Chen, et al, 2013). These

models address both the managerial and technical level in terms of development and

quality control using qualitative and quantitative findings. Additionally to this, Drinka

& Yen (2008) point at the benefits of learning by doing (simulations, work integrated

learning and internships) and community engagement as effective approaches towards

delivering Management Information Systemprogrammes. In terms of

pedagogy/andragogy, Saulnier, et al's (2008) model highlights the value of student

centered learning in HE. Both the works of Walker (2007) and Marchewka (2013) point

at the influence of external factors, (the labour market and requirements for

accreditation) in light of proactive or reactive practices concerning curriculum and

assurance of learning. Chen, et al (2013) specifically focus on curriculum delivery and

uses TQM principles in their maturity model around teaching quality. In order to develop an institutionally integrated curriculum that spans across departments and inclusive of external stakeholders, Antonucci, et al (2004) propose a maturity model that includes principles of enterprise resource planning (ERP). Lutteroth, et al, (2007) maturity model aims at presenting best practice with the purpose of enhancing teaching and learning practice in the ICT field. White, et al (2003) present a model that includes certified standards in the measurement of learning outcomes.

3.4.5   Career Management

The only model that could be identified in the literature study undertaking for this study that tackles employability using maturity modeling principles is presented by Careers New Zealand (2012). The model was developed in an attempt to present best practice in HE in terms of the development of career management competencies in students. This model is designed using 4 levels of maturity and 3 main dimensions. The levels are termed as ineffective, adequate, consolidating effectiveness and highly effective. The model uses engagement as an overarching concept in describing and consequently evaluating the HEI where the model is being deployed.

4   Concluding Summary of the Literature Review

This literature review has sketched the issue of employability in context of the shift from a resources based to a knowledge economy. By means of providing a historic review of the construct, discussing a variety of definitions of the construct and through outlining various models and frameworks of general and HE nature, the remaining opacity of the current understandings around employability has been outlined. The first section of the literature review then consolidated its review to arrive

at a holistic perspective of employability in an attempt to comprehensively illuminate the construct by means of an operationalizing definition and three influencing factors of intrinsic, extrinsic and actionable nature.

In a second section this literature review has presented the position of knowledge and HE in the 21st century economy in context of employability. This is first being addressed by briefly discussing the changing perspectives on careers and the new realities of today's knowledge economy to then advance the discussion in terms of the role of HE herein. In terms of structure and purpose of HE Is, the current debate around fitness for purpose has been briefly acknowledged. The discourse around structure has drawn on value chain principles in order to unpack and make sense of the transformation process that HE learners engage with towards building their employability. The debate around purposeful HE has been attempted to be appeased by arguing the potential of the employability goal, if holistically considered, to compromise the seemingly opposite perspectives of HE as a ground for mind-schooling for humanity versus commercial and economic arguments dictating the HE curriculum. Further review then presented a current account of effective HE practices in terms of employability. Five themes were discussed in aggregation of scholarly and prominent grey literature around the subject: T&L for employability, support services, employer engagement, measurement and leadership. T&L for employability is unpacked by means of discussing general principles around adult learning and exhaustively outlining important curricular considerations in context of employability. The review of support services has attempted to present the value of extra-curricular activities in particular the role of career services and alumni. Employer engagement has been discussed around how employer relations can enhance a HEI's

address to employability using and input-process-output perspective, pointing at various types of relations that can be engaged in. The theme of measurement has used the literature around quality assurance in HE in the context of employability to sketch the value of data, measurement systems and analysis towards the realizing an evidence based approach to employability allowing for more effective interaction with internal and external stakeholders around quality control and accountability. Finally, the theme of leadership has briefly addressed the inclusion of employability in a HEI's strategy and organizational culture alongside comparing and contrasting the two main types of leadership in HE and their appropriateness for tuning HEIs for the 21st century employable graduate.

A third section of this literature review has presented an account for the literature around maturity modeling by starting the discussion with its place in the larger theoretical field of systems theory to advance into modeling for complexity. Maturity models, considered as a knowledge artifact with the ability to support problem solving and decision making, have then been given specific attention in terms of its concept, its elements, its purpose and finally its development. A variety of development considerations and approach have been outlined around rigorous design, which, as evidenced in the methodology in the next section, is of critical importance to this study. Finally, the use of maturity modeling in HE is being addressed by making an account of 19 maturity models that have been identified as developed for HE spanning a variety of application domains of which only one relating to employability.

In conclusion, following holistic view around employability presented in this literature review, it is arguably fair to say that addressing the construct through HE

requires a myriad of considerations around its intrinsic, extrinsic and actionable factors. For a HEI to effectively address employability themes of activities offer opportunity for inclusion of these influencing factors. Some activities are directly student oriented, whereas others are more institutionally relevant, yet provide strong opportunity to strengthen the primary activity of T&L for employability. The interplay between the different activities and the level of integration is arguably as pertinent as the efforts exerted within each theme. Maturity modeling appears to be a promising approach to this issue since it is a proven method to diagnose an organization on its ability to realise processes to a predefined quality standard and offers opportunity for improvement planning through its support in sense making.
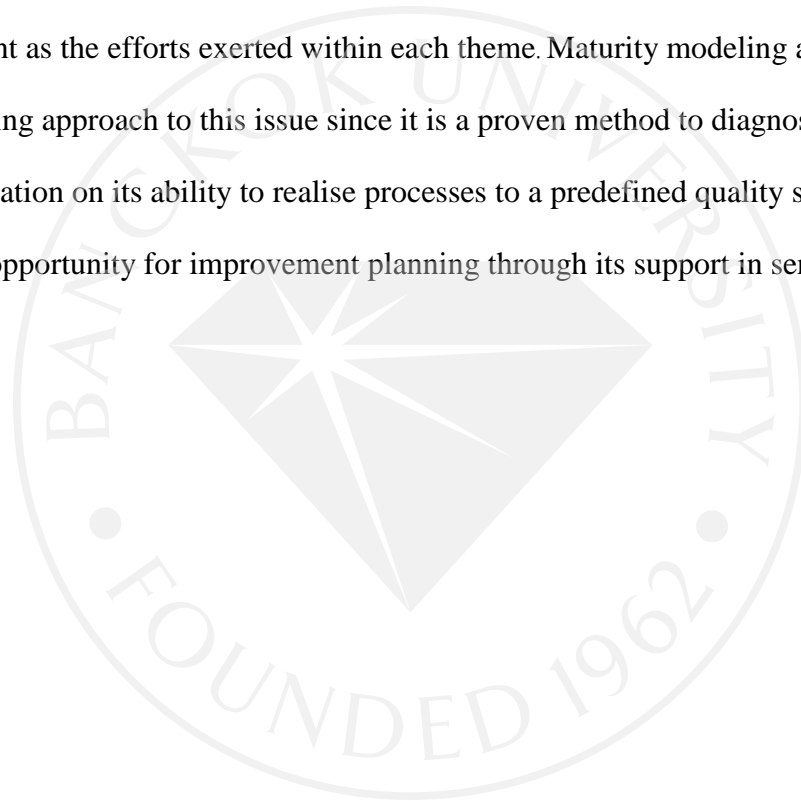
CHAPTER 3

RESEARCH METHODOLOGY

"It is true because it works and it works because it is true."

1. Introduction

The discussion around the methodology for this study will be presented using the three fundamental components of research design as presented in Creswell's framework (Creswell, 2009) Philosophical world view, Strategies of Inquiry and Research methods. This framework is chosen because it presents a neatly organized approach to methodology and research design representation, however the researcher also notes that other frameworks and taxonomies exist (as reported in Creswell, 2009) such as presented in Saunders, et al (2009). The methodology below will, in line with its philosophical worldview, draw on a variety of methodological conceptions to outline the approach chosen to advance this study, yet the component-framework of Creswell will form the overarching structure to guide the discourse in this chapter. By outlining the philosophical view, the researcher will set the stage to introduce the approach of Design Science Research that underpins this study. This willframe the further outline of the combined use of site findings (case study method), expert consultation (Delphi Technique method) and modeling (maturity model development method) to provide a robust description of the methodological approach this study uses. Each of these will be discussed in detail in order to evidence robustness and rigour of the approach used for this study following the recommendation of Fossey, et al (2002) as a generally overarching way of ensuring reliability and validity. By means of referencing well-cited approaches as adopted (and where appropriate adapted) for this study, the researcher aims to evidence the appropriateness of the

approach in the context of this study. A separate section will finally be dedicated to addressing the scientific quality of this study by discussing considerations around validity and reliability.

2. Philosophical Worldview

Creswell (2009) presents four general perspectives of philosophical worldviews: Post positivism, Constructivism, Advocacy/Participatory and Pragmatism. These are noted by Creswell as generally accepted worldviews on the basis of their widely assumed position in the scholarly world. At the same time, there are domain specific realities that have led to the emergence of new, more specific paradigms as extensions of these general paradigms. This section will first describe the position in the general plain and then elaborate on a more specific stance as an extension that the researcher feels most appropriate for this study.

2.1. The general stance

Following Creswell's framework the researcher evaluated each of the four presented perspectives of worldviews to arrive at his choice. Each of these are recognized in their own right and are therefore briefly acknowledged in order to guide the choice for this study.

Post positivism, as a critiqued extension of positivism (Phillips & Burbules, 2000), argues for the rather purely scientific approach to research whereby cause and effect are investigated to reduce the problem under investigation to a testing of causal relationships between independent and dependent variables in order to propose theory, validate or challenge it. This perspective assumes the existence of some sense of absolute truth (be it clear or somewhat obscure) that can only be uncovered through objective inquiry that is predominantly deductive.

The social constructivist view as summarized by Schwandt (2007) investigates the meaning that is given by individuals to reality as they see it, calling for a subjective or interpretivist stance of the researcher in the investigation. Crotty (1998) presents the constructivist approach as one that is concerned with meanings that are constructed by people through historical and social experiences and is largely inductive towards the uncovering of truth that is context specific and dependent on who the observer is.

The advocacy/participatory approach, outlined in Neuman (2006), advances constructivism towards the development of an actionable agenda in a political context whereby the voice of the participants is given ample attention with the eye on instigating possibilities for change and reform (supposedly) towards their betterment. It is collaborative and emancipatory in nature (Kemmis & Wilkinson, 1998) by means of the strong involvement of the subjects of study in the creation of a series of proposed ways forward towards freeing participants from constraining structures or situations.

The fourth worldview proposed by Creswell, Pragmatism, is more concerned with problem solving in an applied context of problems (Patton, 1999; Cherryholmes, 1992) rather than giving attention to preliminary conditions. The emphasis lies on the investigation of what works by drawing methods from what is available on the basis of appropriateness (i.e. what fits the study and the situation) to understand the issue at hand and advance towards the solution (Rossman & Wilson, 1985).

For this study the researcher places his perspective on the cusp of the objective and the subjective yet chooses to advance the argument of methodology not around the philosophical debate about underpinning perspectives towards reflection of truth in its essence, but by drawing attention to which approaches of inquiry are useful and

appropriate to arrive at the finding of the solution for the problem at hand given its bi-dimensional nature (objective and subjective) (Rorty, 1982, Cherryholmes, 1992 and Morgan, 2007).

In order to clarify this, four general points must be considered that fundamentally reflect the nature of this study. Firstly, the construct of employability, as the literature study shows, concerns a construct that is relative in its very nature, has been evidenced to be perceived in a variety of ways and has evolved over time (and arguably can be expected to continue to evolve). Secondly, HE is a construct that is highly context sensitive and highly complex in terms of how it institutionalizes itself particularly relating to the wide variety of stakeholders involved. Thirdly, at the intersection of both constructs some sense of objectivity/positivism can be argued for, on the basis of empirical evidence around activities that are proposed as conducive towards the effective address of employability in a HE context. That being said, the dynamic nature of the economic and societal environment in which HE finds itself in a global context on the one hand and the institutional specific conditions of a HEI on the other handsuggest the need to appreciate a reality of constant flux. At the same time, the views by academics around the role of HE in relation to employability is further highly contested. Finally, the choice and development of the proposed model, stooled on validated approaches (as will be evidenced below), also carries a dual character in terms of objectivity and subjectivity as it adheres to fundamental principles of modeling yet uses a largely interpretivist approach to the gathering of data and validation (as will be elaborated on later in this section).

At a general level (Creswell's four worldviews) this has lead the researcher towards assuming a pragmatist approach following the reasoning presented in the

work of Rorty (1982; 1990). The fundamental premise of the pragmatist perspective rejects the necessity for the adherence to one school of thought or approach (be it positivist or interpretivist) on the basis that the discussion around the existence of an underlying truth that all language/vocabulary surrounding the paradigm eventually would lead to a deeper lying form of truth should not be a point of paralyzing philosophical discussion (Cherryholmes, 1992).

"Pragmatists say that the best hope for Philosophy is not to practice Philosophy. They think it will not help to say something true to think about truth, nor will it help to act well to think about Goodness, nor will it help to be rational to think about rationality" (Rorty, 1982, p. 3).

The continuing evolution of the construct of employability as presented in the literature and the wide variety of HE, societal and economic contexts would overly complicate the search for a single truth. It would furthermore be shortsighted to argue that there is a one size fits all solution to addressing employability in HE. The model presented is therefore by no means intending to be prescriptive, and recognizes the value of various approaches to employability on the basis of a holistic approach to the construct. The researcher strongly contests the idea that there is an objective golden standard that is ultimate and objective. This calls for consideration of "the sense that there is nothing deep down inside us except what we have put there ourselves, no criterion that we have not created in the course of creating a practice, no standard of rationality that is not an appeal to such a criterion, no rigorous argumentation that is no obedience to our own conventions."(Rorty, 1982, p.31).

Pragmatism values the utility of scientific practices as well as practices around the arts and ethics as the former being no less relative to the latter or the latter

requiring to be more scientific than the former. Each discipline produces its own outputs such as propositions, narratives, visual or auditive works. In search for what we (should) want – in the case of this study the development of a diagnostic model - the pragmatist perspective argues that the pertinent questions to ask are not about the alignment of the current inquiry with one underlying conception of truth, but rather concerned with the question of which asserted propositions, decoded narratives or interpreted works can be of use in advancing the study towards a final outcome (Rorty, 1982). To put it more succinctly, "truth (justified theory) and Utility (artifacts that are effective) are two sides of the same coin ... scientific research should be evaluated in light of its practical applications" (Aboulafia, 1991).

2.2. More Specific Worldview: Pragmatic Design Science (PDS)

It is important to note that the emergence of new research domains may not always find Creswell's general four paradigms fully appropriate ormay identify shortcomings therein to address some fundamental aspects of the domain (Venable and Baskerville, 2012). This therefore, in line with the general nature of research, may warrant for the development of new paradigms of thinking that are perhaps not as generally applicable, but more appropriate for particular domains. With its roots in pragmatism, Design Science is one of these newer paradigms and has been introduced to deal with research problems around, for instance modeling, in the field of information systems (Hevner, et al, 2004; Hevner, 2007; Hevner & Chatterjee, 2010a, 2010b; Vaishnavi & Kuechler,2009) but also beyond such as in the field of Research Methods (Venable & Baskerville, 2012). The very nature of PDS as a worldview has been elaborately discussed in the works of Vaishnavi & Kuechler (2009) and Dalsgaard (2014) of which the following is a concise statement appropriate to this

study. Ontologically, PDS considers reality represented by the subject placed in, and interacting with, its environment, which is referred to as the 'situation'. The environment further consists of social, technological (inclusive of artifacts) and physical elements. As the individual and the environment constantly interact, they influence each other leading to both being constantly evolving thus resulting in the situation being in flux. This is particularly relevant to this the study pertaining to the dynamic economic realities, changing career patterns and the current winds of change in HE. Epistemologically, PDS aims to generate knowledge that allows for change through future intervention by means of interaction with the situation on the basis of preconceived theories. The resulting knowledge may vary according to the state of flux the situation is in, yet the knowledge gained is knowledge about that particular state of flux and therefore in itself worthwhile whereby the researcher constantly engages in learning. The literature in context suggests not only differences in institutional approaches to employability (Butcher et al, 2011; Eurydice, 2014; BIS, 2011) but also points at the dependence of the construct on the basis of extrinsic factors such as enabling policies, socio-economic conditions and personal circumstances to name a few (Vande Wiele, et al, 2014). These are all variable factors that may very well fluctuate over time and therefore create a very different situation arguably resulting in different knowledge gained through interaction with it. The ultimate purpose of interacting with the situation is strongly driven by the desire to build capacity for improvement.

In terms of 'design science', the *design* aspect needs to be appreciated both as a noun and a verb, meaning that this methodology is as much about the process as it is about the artifact it creates (in this case the model). Hevner, et al (2004) argue that

through a series of expert activities an innovative product is created through the iterative approach of production and evaluation. The evaluation allows for better understanding of the problem that is being addressed allowing for improvement of the artifact that is being designed as well as the design process. When considering the design science as a process to output, it can be argued that the process component covers the actions of building and evaluating whereby the potential outputs of this can be models and methods (March & Smith, 1995). Models, as a representation of the reality, represent a solution space to the design problem at hand (Simon, 1996). Hevner, et al (2004) further assert the value of models towards problem and solution understanding, whereas methods are proposed as processes that guide the effectual problem solving as such and typically take the form of mathematical algorithms or textual descriptions. For this study both are of relevance.

Hevner, et al (2004) presented a framework for the development of artifacts in the information systems field, which was later adapted to a general three cycle research design model in Hevner (2007) consisting of a Relevance cycle, Design Cycle and a Rigour Cycle (Figure 1).
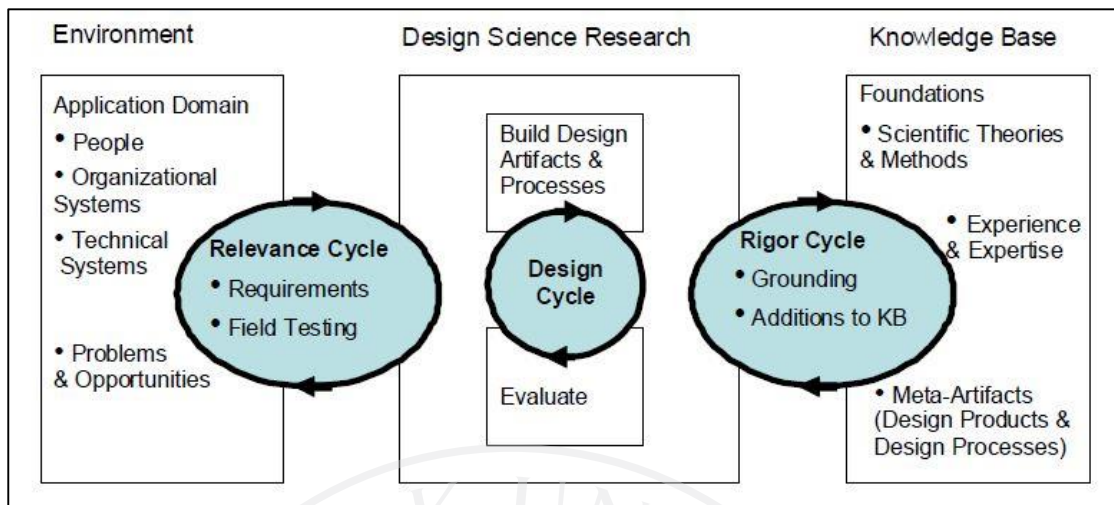
Figure 1: Three Cycle Design Science Research Model

The model introduces a central Design Cycle of, on the one hand,

development and building of design artifacts and processes and on the other hand,

evaluation thereof. This approach is given relevance through what is referred to as the

Relevance Cycle by connecting it to the environment in which the problem is situated.

This environment consists typically of people, organizational systems and technical

systems. In the context of this study, the environment is the HEI consisting of its

internal and external stakeholders (the people), its strategies, structure, culture and

processes (the organizational systems) and its mechanisms for communication,

administration, measurement, etc (the technical systems). In order to provide rigour to

Design Cycle a knowledge base is introduced as a third component to the model. This

consists of underpinning theories on the basis of prior studies and methodologies,

experience and expertise around the topic of investigation and the artifact to be built,

and existing design products and design processes referred to as meta-artifacts. In this

study, the theoretical framework has been developed out of the literature study in

chapter 2 providing the fundamental activities in HE towards the realization of a

transformational process for employability and fundamental notions around maturity modeling. The meta-artifacts around maturity modeling have been generally discussed in the literature study and will be further specified in relevance to this study in this chapter. The methodologies, experience and expertise applicable for this study will also be further presented in this chapter.

2.2.1. Design Science Guidelines

As a starting meta-artifact, Hevner, et al (2004) present seven guidelines that they argue must be adhered to for design science to be complete, however advising "against mandatory or rote use of the guidelines". To further strengthen the choice of design science to this study, each of the guidelines will be concisely addressed in context.

Guideline 1: the creation of an innovative and purposeful artifact. This study aims to develop a maturity model to diagnose the approach of HEIs to employability and inform for possible improvement since, to the knowledge of the researcher, no peer-reviewed literature reports on the development of a maturity model for this particular problem. The model is purposeful as it aims to explicitly support diagnosis, sense making and implicitly present actions for improvement.

Guideline 2: Problem relevance

Directly in line with the purposefulness of the model, the problem it addresses is highly relevant. By making reference to the introduction of the study and the literature review, the current struggle HEIs have in making sense of how to address employability and advancing their actions for improvement is clear. The model is based on the holistic context in which employability is placed which has

been argued to have become the more relevant context for HE rather than the mere focus on technical and field specific skills.

Guideline 3: Design evaluation

The approach to the study in terms of the crosschecking of the model with the literature and validation of the model through expert consultation will be elaborated upon in the next sections in this chapter. This will be done by combining recommendations of seminal, highly cited works in research methodology appropriate to the chosen approach and through rigorous and logical argumentation for appropriateness on the basis of the context.

Guideline 4: Research contribution

The developed artifact aims to contribute to the validation of maturity modeling as an effective manner to make sense of a complex situation of processes in a HE context. The developed artifact further aims to open future research opportunities for much more in depth development of mechanisms for particular aspects of the model. The model aims to provide a comprehensive, organization-wide view on how HEIs can address employability in an effective way inclusive of setting the stage for considerations towards improvement.

Guideline 5: Research Rigour

This study claims its research rigour around construction and evaluation of the artifact through a variety of ways. Through a comprehensive review of the literature, the underpinning theoretical framework is clearly evidenced to be highly relevant and appropriate. The further elaboration on the approach to this study will clearly articulate and justify the used approach by means of adopting and adapting validated methods towards construction and validation of the model.

Guideline 6: Design as a search process

The process followed to create the maturity model in this study allows for detailed and comprehensive representation of the problem space by means of extensive literature review, exploration of practices in purposefully selected site/cases and consultation with experts that form a comprehensive pool of relevant expertise on the subject. Through constant reflection and systematic addition of evidence the researcher aims to constantly search for, and build towards, robust and pertinent model content.

Guideline 7: Communication of the result

The model aims to be communicated in both a general way and a very detailed manner in terms of the content that will populate the descriptions of the different levels of maturity and how this reflects on the dimensions within the model. The final model will, furthermore, be accompanied by a variety of document that will guide its use. The articulation is aimed to appeal to both the world of academics and practitioners which in the context of this study present strong overlaps, since the intended audience is positioned in a HE context.

3. EDAMM Design

The literature presents a variety of models and frameworks that guide the design of maturity models as elaborated on in the literature review on maturity models in the previous chapter of this manuscript (Becker, et al, 2009; De Bruin, et al, 2005; Mettler, 2009; Pöppelbu & Röglinger, 2011). For this study, the researcher has opted to follow the recommendation of Mettler (2009) for the reason that it neatly captures a variety of elements that the other frameworks address. At the same time it allows for a workable set of development considerations in appreciation of the realities of time,

resource and access constraints of this study, yet still provides strong claims towards

rigour in design. Mettler's framework considers four phases to the development of a

maturity model: scope definition, model design, design evaluation and evolution

reflection. In light of the aim of this study, the first 3 are considered pertinent and will

be used to guide the development of the model. Future research intentions of the

researcher, as will be addressed at the end of this thesis towards progressing the

model further. Table presents the choices on the decision parameters presented by

Mettler (2009) as an introductory statement around the approach followed for this

study. These parameters guide the development of the discourse around the approach

used for this study.

Table 12: Decision parameters for Maturity Model Design

Phase	Decision parameter	Characteristic			
Define scope	**Focus / breadth**	General issue		**Specific issue**	
	Level of analysis/ depth	Group decision-making	Organisational considerations	Inter-org. considerations	Global & societal considerations
	Novelty	Emerging	**Pacing**	Disruptive	Mature
	Audience	**Management-oriented**	Technology-oriented		Both
	Dissemination	**Open**		Exclusive	
Design model	**Maturity definition**	Process-focused	Object-focused	People-focused	**Combination**
	Goal function	One-dimensional		Multi-dimensional	
	Design process	Theory-driven	Practitioner-based		**Combination**
	Design product	Textual description of form	Textual description of form and functioning		**Instantiation (assessment tool)**
	Application method	Self-assessment	**Third-party assisted**		Certified professionals
	Respondents	Management	Staff	Business partners	**Combination**
Evaluate design	**Subject of evaluation**	Design process	**Design product**		Both
	Time-frame	Ex-ante	**Ex-post**		Both
	Evaluation method	**Naturalistic**		Artificial	
Reflect evolution	**Subject of change**	None	Form	Functioning	**Form and functioning**
	Frequency	Non-recurring		**Continuous**	
	Structure of change	**External / open**		Internal /exclusive	

In the Design Scope phase the researcher has identified the diagnosis of a

HEI's employability efforts as a specific issue within HEIs that concerns the analysis

of organizational considerations. The solution novelty is pacing in nature due to the

fact that even though extant literature around the topic exists, no attempt to develop a comprehensive diagnostic tool has been made. The audience that this model aims to address is management oriented and its dissemination will be public in nature (through publication in the scholarly world). The Model Design phase will follow a combination of theory driven and practitioner based design processes of which the design product aims be an assessment tool that will be third party assisted. The evaluation phase will be primarily focused on the evaluation of the model itself ex-post through consultation with experts. In the final phase of reflection on the potential evolution of the model, the researcher will contemplate the possibilities of mutability around form and functioning of the model considering the observed changes of many of the constructs that underpin this study as evidenced in the literature, and highly likely a more refined manner of administering the diagnosis after future application of the model in a number of cases. The expectation is that the frequency of occurrence will be continuous given the complexity of the system and the vested interest of the researcher to explore this context as a stream of research for the next few years to come whereby the researcher aims to fine tune the model on the basis of reflection on personal application of the model, feedback by other users of the model and new emergent insights from the academic literature within the context of this study.

Keeping in mind the considerations presented above following the decision criteria of Mettler (2009) and Hevner (2007), the investigative approach aims to progress following the schematic as outline in Figure 2.
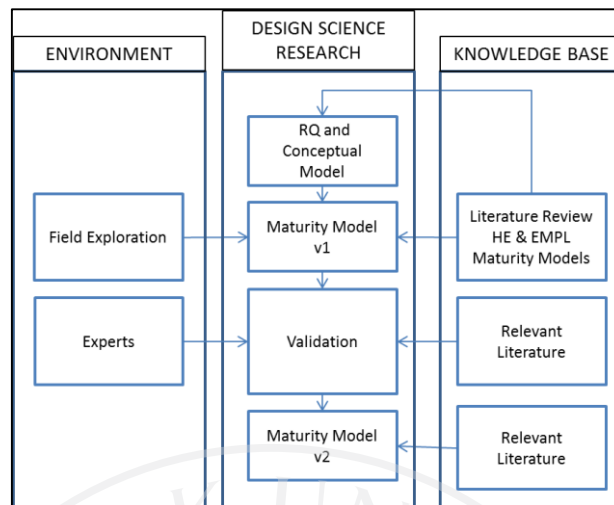
Figure 2: General outline of the planned sequence of investigation

4. Strategies of Inquiry

Regarding general approaches to strategies of inquiry typically used in social sciences, Creswell (2009) and Saunders, et al (2009) present a variety of options. Yet, alike to their representation of the worldviews, they do not present an all-exhaustive list. In this study a selection of strategies of inquiry will be argued from both within and beyond their listed approaches.

To arrive at a proposed model, the researcher aims to follow a systematic approach that combines validated approaches either from appropriate seminal literature around methodology and rigorous and robustly logical argumentation in context to the study. Since this is a qualitative study, the rigourous argumentation and justification of the method(s) deployed is a way of arguing stronger reliability of the study (Fossey, et al, 2002).

The researcher will construct the model by means of an initial literature study around the key constructs before moving to building a first version of the model through gathering practices of purposefully selected entities in the fieldthrough a

bottom-up approach. The study will then engage in an attempt to validate the model to finalize its model construction. This general outline of the construction process is guided by the three cycle approach of Hevner (2007) and Mettler's (2009) design decision parameters.

The literature study has a dual purpose. Firstly, it functions as a Relevance Cycle, since it allows deeper understanding of the problem and the identification of the pertinent issues around the address by HEIs to employability and its diagnosis. Secondly, the literature study has contributed to the knowledge base for the study from both a perspective of its context (HE and employability) and the proposed solution (maturity modeling). Since the strategy used for the literature study has been discussed previously, the discussion in this chapter will focus on the construction and validation of the model.

The first round of construction of the model happens through (1) a multiple case study approach mainly guided by the recommendations made in the works of Eisenhardt (1998) and Eisenhardt & Graebner (2007) around building theory from case studies and (2) the recommendations of Mettler (2009) on the building of maturity models. The evaluation of the model concerns the validation thereof and will be approached through iterative consultation with experts in the field using a Delphi Technique approach following the principles of this strategy of inquiry by means of the works of Day & Bobeva (2005), Linstone & Turoff (2002), Okoli & Pawlowski (2004), Powell (2003), Skulmoski, et al (2007) and Wakefield and Watson (2014). This phase represents arguably Design, Relevance and Rigour Cycles as it tests the validity of the model in terms of its content (Design Cycle) through evaluation by experts in the domain (Relevance Cycle) inclusive of the general appropriateness of the maturity

modeling approachand design and administration of the Delphi Method (Rigour Cycle) to result in a second version of the model. Since it is clear that Design, Relevance and Rigour cycles often overlap, which is in line with Mettler's (2009) recommendation around Maturity Model design, the further approach to discussing the methodology will be structured as per the methods used i.e. the case study method as a base for construction of a first version of the model and the Delphi Method for its validation and final model proposal.

4.1. Case Study Approach to Establish a Basis for the Construction of the Model

For the construction of the model a qualitative strategy has been chosen on the basis that a case study approach is deemed appropriate in line with the pragmatic design science approach of interaction with the 'situation'. When considering this study, due to the 'how' form of the research question, the observation of the 'situation' without interference or manipulation and the focus on contemporary events, Yin (2014) argues the case study as an appropriate method. Research through case studies is particularly suitable to address the existence or absence of a particular phenomenon (Johnston et al, 1999). In this study, the phenomenon of interest is "the transformation of a student into an employable graduate" under the conditions of more or less appropriate curriculum, support services, employer engagement, measurement, leadership (i.e.management) themed activities. Easterby-Smith, et al (2012) make note of the use of case studies in relation to theory testing, generation and application. Since this study aims at developing a model their recommendation is followed to find solace in the work of Eisenhardt around theory building through case studies (Eisenhardt, 1989; Eisenhard & Graebner, 2007). "Building theory from case studies is

a research strategy that involves using one or more cases to create theoretical

constructs, propositions and/or midrange theory from case-based, empirical evidence

"(Eisenhardt & Graebner, 2007, p.25).Glaser and Straus (1967) noted that the

development of relevant and valid theory can only benefit from meaningful and in

depth interaction with reality. Eisenhardt (1989) points at replication logic as a central

tenet to building theory out of case studies whereby each case study stands as an

analytic unit and knowledge is drawn from both cross-case analysis and within-case

analysis (Easterby-Smith, et al, 2012). The replication logic can be of literal or

theoretical nature (Yin, 2012). The use of case studies for building theory is argued as

popular and highly relevant for theory building as "it is one of the best (if not the best)

of the bridges fromrich qualitative evidence to mainstream deductiveresearch"

(Eisenhardt & Graebner, 2007, p.25). This strategy of inquiry is furthermore reported

to have been used for internal organization (e.g. Gilbert, 2005b) and strategy

(Mintzberg & Waters, 1990). This can be argued to show meaningful parallels with the

current study whereby the model aims to address both the internal organization of a

HEI and its used strategy to develop a meaningful and effective approach towards

employability. De Bruin, et al, (2005), in their work on rigorous development of

maturity models also indicate the value of using case studies as a possible approach to

developing maturity models, as they argue that "It is unlikely that a literature review

(no matter how comprehensive) will identify sufficient information".

Creswell (2009) describes case studies as an investigation of "a programme,

event, activity, process or one or more individuals" . According to Yin (2002) a case

study is "an investigation to retain the holistic and meaningful characteristics of real

life events such as ... organizational/managerial processes". Yin (2002) continues to

argue the validity of using case studies to "answer the 'how' and 'why' question about a contemporary set of events over which the researcher has little or no control and asserts that " a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident … copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result, relies on multiple sources of evidence, with data needing to converge in a triangulating fashion . Eisenhardt (1989) defines the case study as "a research strategy which focuses on understanding the dynamics present in single settings..

Creswell (2009) also points at the importance of the place of theory in a qualitative study and indicates that theory can be purposefully present both at the beginning or end of a qualitative study. The study of Murguia (1991) is highlighted to indicate how theory (that in the presented case was considered as 'incompletely conceptualised') can be placed at the beginning of a study and throughout the study be modified according to what is being found following the typical iterative approach to qualitative, and particularly case study analysis. Eisenhardt & Graebner (2007) further assert that elaborate exploration of the literature around the constructs that will be given attention in case study approaches for theory building is imperative for empirical work.

Eisenhardt (1989) presents a framework of building theory from case studies from preparation to closure. This suggested approach, combined with Design Science principles as presented before and in particular, principles around building maturity models, will guide the way this part of the study will be conducted.

4.1.1. Getting Started

As is common practice in most research endeavours, a clear research question gives focus to the research and allows to deal with otherwise potentially overwhelming data when engaging in case studies. The a priori defining of constructs in a theoretical sense is argued to be beneficial. This recommendation is followed for this study in order to not get side-tracked in the data collection process and to (should the data collection prove these constructs to be relevant) have a firmer empirical grounding for the suggested model. That being said, the researcher will remain receptive for other constructs that may prove pertinent to the problem at hand.

4.1.2. Case Selection

For the selection of the cases, the researcher follows the recommendation of theoretical, purposeful sampling (Glaser & Strauss, 1970) whereby cases are selected "which are likely to replicate or extend the emergent theory" (Eisenhardt, 1989, p. 537). A variety of options can be considered around the shortlisting of HEIs that would be purposeful for this study.

1. HEIs that are mentioned in the literature as actively pursuing a valid and effective address to employability of their graduates.

This option is advantageous in order to identify best practices in the development of the model, yet reporting on good practice in the literature usually does not (and this is one of the pertinent gaps in that this study is trying to address) evaluate institutions in a holistic, organization-wide approach to employability, it rather reports on singular – often isolated -effective practices. As the literature around employability and HE has become rather extensive, this approach may not be practically appropriate for the purpose of this study.

2. Evaluating rankings of HEIs that consider employability indicators (typically employment status and salaries of graduates).

Such rankings reveal interesting information and are often used as a quick guide towards decision making around quality of institutions. It can however be argued to be perhaps not entirely appropriate for this study for the reason that employability is more than a dichotomic construct on the one hand and it is set in a relative context whereby the outcome of the HE transformation process is not necessarily more important than the process deployed. Rankings can furthermore be argued to be subject to a self-fulfilling prophecy whereby, simply put, a HEI is considered the right choice by the learner on the basis of its position in previous ranking, which in itself maintains the ranking. The accessibility to highly ranked universities may also prove to be challenging.

3. HEIs that currently employ researchers that are actively involved in the field of employability and HE.

This option has a number of reasons for appropriateness in light of this study and can be argued to capture perhaps some of the intuitive benefits of the first option. Through the literature study, the researcher has identified and communicated with a few scholars that have shown interest in the topic of the study. As the purpose of the study is to identify practices that help in the address to employability, evaluation of the process is more relevant that merely focusing on the output, and engaging with institutions that employ individuals that are interested in the field of this study, may prove most beneficial. These individuals would furthermore be a good starting point as key informants of the case and be able to give relevant and in depth

information regarding the topic. They may furthermore also be able to identify additional informants present at the considered case.

On the topic of the selection of the cases, the note of Meredith (1998) around cost, time and access constraints in case study research is also very relevant. In terms of cost, the researcher is constrained as he is engaging in this study on a self-funded basis, therefore being considerably limited in terms of financial resources to engage in e.g. travel to visit sites that may be considered appropriate, even though a geographical spread of the cases would enhance the validity of the data collection. Time to complete the study is constraining on the basis of the limit set by Télécom Business School as a 3 year study with a possible 4th year with consent of the administration. Access to research sites presents a constraint in terms of how open the HEIs are willing to be in terms of allowing the researcher to access a variety of data sources. Access to a variety of data sources is argued pertinent for effective case study analysis, and therefore may require consultation of internal documents potentially considered as sensitive by the HEI. This may stifle the willingness of the HEIs to participate in this research endeavor. The literature suggests that for theory building out of case studies a minimum of four case studies is required (Easterby-Smith, et al, 2012). The main argument is related to the validity of the theory that would be presented. Given the fairly strenuous constraints on the front of particularly time and resources, this requirement is unlikely to be met, yet another mechanism has been put in place to address validity by means of strong rigour cycles and expert consultation specifically aimed at validating a first version of the model. This study will use three case studies to inform (in conjunction with extensive literature review) the first round of construction of the model before validation. The critique that three case studies may

not be enough given the general recommendation in the literature of using four cases is a limitation to the study. The validation mechanism through the Delphi technique aims to offset this limitation.

Considering the above mentioned constraining factors and using a practical and pragmatic approach, the cases are being selected by using a mix of criteria and considerations around accessibility, academic rigour, employability orientation of the institution, teaching and learning methodology, formal accreditation/ranking and geographical spread.

The following cases are used based on a principle of theoretical, purposeful sampling in the context of constraining factors:

As a first case, the researcher plans to use a HEI in Bahrain. The reason for this selection is based on the its explicit focus on the development of employability in young local graduates and relative ease of accessibility to this site as a result of the researcher's personal network. The institution has shown great commitmentto developing the employability of its graduates as part of the purpose of its insurrection. The institution was a key initiative by the government of the Kingdom of Bahrain towards the realization of its Bahrain 2030 Vision aiming to reposition the Bahraini economy in the realities of the 21st Century as a diversified and agile economy.

A HEI in Bangkok is considered as a second case. Due to the network of his advisor and as a current enrollment in the Phd KIM programed at Bangkok University, the researcher was able to get access to data sources to reveal how HEI2 addresses employability of its graduates. Its inclusion would give consideration to a geographical spread that includes Asia and represent a university that carries the development of creative individuals in its ethos. It is a large and well established

university that holds good standing in Thailand (Rank 35+ / 186). Its resolution is to focus "on developing students to become graduates with academic potential, practical skills, broad vision, preparedness to adapt to the changing society, ethics, and ability to work confidently". Its statements around mission, objectives, values and motto all allude to ideas around employability for the 21st Century through a strong focus on entrepreneurship and creativity.

A third case selected will be a HEI in France. Based on the personal network of both advisors to this study, accessibility to information was secured. This HEI reports on its website to be ranked highly in terms of employment statistics in France and is AACSB and AMBA accredited. From preliminary conversations with some potentially key informants in the school, this HEI seemed to give ample attention to employability through its Teaching and Learning practice, engagement with industry and support activities around launching the career of its graduates.

The considerations of constraints around the selection of the cases inevitably results in limitations of the study, which will be recognized in a separate section of this manuscript.

4.1.3. Instruments for and Protocols of Engagement With the Research Site

The use of a multiple data source approach is a general point made by advocates of the case study approach for theory building (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Stake & Savolainen, 1995; Sutton & Raphaeli, 1988) as it gives a rich representation of the reality, but also increases the reliability of what is found through the technique of triangulation of data sources (Patton, 1999; Yin, 2002), whereby the emergent findings from each data source can be crosschecked against

what is found from others for similarities or differences. This is particularly pertinent for this study on the basis of possible differences between the espoused and the enacted address of employability in HE as indicated in the literature review. Even though both qualitative and quantitative data can be used for the development of a case study, the choice of either one can be argued to be pertinent enough (Eisenhardt, 1989 and Yin, 2012). For this study the researcher has opted for a qualitative approach for a number of reasons, which are:

1. The aim of the study is the development of a model that aims to provide a collection of practices which HEIs can engage into address employability. This requires considerable attention to the semantics of how these approaches are being articulated and described. This is further indicated by the research question that is addressing a 'how' rather than a 'what' or 'how much' question.

2. The context in which a HEI finds itself is of particular importance to the way it potentially addresses employability and therefore interviews are arguably the better approach to uncover the finer detail and nuances on how this is done as compared to quantitative measurement of variables.

3. The interpretive nature of the construct of employability and the holistic perspective this study assumes towards the way HE interfaces with this construct warrants a qualitative approach. This is due to the fact that the pertinent data sources to be considered for this study are of textual and/or argumentative nature, requiring interpretation in order to extract the theoretical underpinnings that they may hold.

4.1.4. Data sources and collection

In terms of data sources, this study uses four types of data sources which will allow for triangulation of findings. The four types are in no particular order of importance: information in the public domain, the physical space, key informants, and employability documentation. The discussion of the case studies will however identify the key informants as the most significant data source.

A. The public domain

Any information that is directly available in the public domain around how the selected HEI addresses employability is gathered and collated by means of exploring the website of the institution and possible mentioning of the institution in publicly available studies around themes of relevance. This investigation focuses on statements around employability, career development, engagement with industry and other relevant themes that may be found pertinent to the study.

B. The physical space

Through site visit, the research aims to give an account of the physical environment that makes up the HEI in order to get a sense of how/whether the organization expresses its espousal of employability in its physical site. Accounts were made on what type of artifacts can be found that address employability in a broad or specific sense. Notes during the observation in a log book were used in order to be able to reflect *a posteriori* on the way in which the physical space may be of relevance.

C. Key informants

In the interest of time, informants for the study were considered only if they are key informants. This is based on the position they hold at the institution and the knowledge they have around how the HEI addresses employability. Generally

these are positions that address functions directly related to career development, curriculum development, industry relations and quality assurance primarily in an executive or director position. A sample of the used documentation to secure the participants inclusive of consideration for privacy and adequate preparation for the interview can be found in Appendix 2. Using a snowballing technique, key informants were asked to identify other key informants in the organization for potential further interviews. Interviews were conducted in an individual setting with mostly a priori identified key informants. In certain cases (time and availability permitting) individuals in a more operational capacity were engaged on a more ad hoc basis to collect anecdotal evidence.

C.1. The interviews

C.1.1. General notions on interview protocol

Interviews with key informants followed a semi-structured approach, were audio recorded and timed for a period of 45-60 minutes. More time was allocated in situations where participants were available. A standard interview protocol was followed whereby the interviewees were formally briefed on the purpose of the interview prior to commencing the interview, asked for consent to be audio recorded and assured complete anonymity. The interviewer took notes during the interview and used a check list of topics that needed to be covered. Interviewees were asked for contact details in case follow-up contact was required or to cross check the recorded results to warrant for reliable capturing of their story. Each of the interviewees and interview sessions was given a code in order to easily archive the materials and to reference back to them when needed.

C.1.2. Interview Questions

The series of generally intended questions was shared with the intervieweesat least a week in advanceallowing the respondent some time to prepare meaningful answers. This was felt appropriate since the purpose of the interview is not to identify sudden reactions, rather to get as rich as possible information around how the institution operates. The questions used in the interview were open-ended questions addressing the general nature of how the HEI addresses employability of its graduates. The respondents were given ample time and comfort to elaborate. Probing questions were used in order to uncover how the influencing factors of employability are being considered in the transformational process from entry level student to (employable) graduate. The interview were then advanced towards more specific questions around the different themes of activities that have been identified in the literature study about how HEIs can address employability and whether/how these activities integrate with each other. The interview also tried to uncover what future plans or aspirations the institution holds in context of the topic. Indications around future intentions of the HEI, personal points of views of the informants around what could be done, and realities around required capacity in such context were also brought up for discussion where appropriate. Audio recordings were transcribed quasi verbatim and archived for further analysis.

D. Employability documentation

The institution was asked to share any documentation that holds information around how it tackles employability yet was not be asked to share

data that may lead to the identification of individual stakeholders such as students, faculty and staff or other partners. Such documentation included (but was not be all inclusive of) materials of the following nature: strategic, curriculum design and development, quality assurance and institutional research. A request was drafted outlining the the purpose of the documentation review with an explicit statement around the assurance of confidentiality around information that may lead to personal identification of individuals. Available documentation was coded and formally archived in a database per case following a categorization of strategic, curriculum, employer relations, quality, career development and others. The coding was done by means of giving a unique tag to a document file that consists of a reference to the institution, the type of document and a number (e.g. HEI1_S_1 refers to HEI1 strategic document 1). This type of tagging helped later in locating documents for analysis and referring back to them when engaging in discussion.

4.1.5. Collation and Analysis of the Case Study Findings

For each of the cases a detailed formal write up was developed that captures the total story of what has been gathered from each of the data sources to form a clear and meaningful description of the approach the selected HEI takes towards employability. This is the starting point of what Eisenhardt (1989) refers to as 'within case analysis' and states as pertinent for the development of theory as it allows to better deal with an otherwise overload of data and risk of data asphyxiation. An a prioriformalized template-like structure was used for each of the cases to represent the findings per data source according to the main themes of activities that have been identified in the literature review.

All relevant statements from each of the data sources (the public domain, physical observation (log book), interviews (verbatim transcription) and employability documentation) were subjected to thematic content analysis. The content coding was done manually and started by means of the five themes that have been identified in the literature study: curriculum, support services, employer engagement, measurement and leadership. The researcher remained vigilant and receptive for the emergence of new themes, the possible irrelevance (and thus exclusion) of the *a priori* chosen themes and the emergence of subthemes. Once the coding was completed for each of the cases, commonalities were searched for across cases, which Eisenhardt (1989) refers to as the search for 'cross case patterns'. For this study this was done in order to develop one or more 'generalisable' statement around each of the themes. Eisenhardt (1989) argues that the use of themes (in her work referred to as 'categories' or 'dimensions') emergent from the literature is a good way of supporting the ability of the researcher to meaningfully interpret the findings and reach a reliable result. The general theoretical statement(s) for each of the themes were the cross-checked with data from each of the cases to evaluate how close the theoretical statements fit with the data that was observed in the cases following replication logic (Eisenhardt, 1989; Yin, 2012). Through an iterative approach of comparing the preliminary emergent theory with the data, the researcher aimed to achieve a close fit between both in order to arguevalidity. This process resulted in indicators for each of the themes to make the overarching constructs more qualifiable. The final theoretical statements then served, in conjunction with the existing literature to enhance the internal validity and generalizability of the proposed theoretical statements (Eisenhardt, 1989), as the basis for the building of the first version of the maturity model.

4.2. The Development of the Model

On the basis of the literature review and the three case studies the researcher

engaged in a first Design Cycle to identify:

- *(n) levels of maturity (ML) with a name and a description.

ML_n (name)	ML_n (description)
...	...
...	...
ML_1 (name)	ML_1 (description)

- *(m) dimensions of the maturity model (D) with a name.

$D_{1...m}$ (name)

- *(p) criteria per dimension (C) with a name and a description per dimension

per maturity level.

	$(C_{1...p})^{D1...m}$ (name)
$ML_{1...n}$ (name)	$(C_{1..p})^{D1..m} ML_{1..n}$ (description)

Aggregation of the above results in the presentation of the maturity model in

full in the form of a matrix of the following conceptual presentation:

	D1 (name)	...	Dm (name)
	$(C_{1..p})^{D1}$ (name)	...	$(C_{1..p})^{Dm}$ (name)
ML_n (name)	$(C_{1..p})^{D1} ML_n$ (description)	...	$(C_{1..p})^{Dm} ML_n$ (description)
...	...	...	...
...	...	...	...
ML_1 (name)	$(C_{1..p})^{D1} ML_1$(description)	...	$(C_{1..p})^{Dm} ML_1$ (description)

This first version of the model was then presented to a panel of experts for validation through a Delphi Technique, (described in elaborate detail in the next section of this chapter) after which the above model structure and content was revised in a second Design Cycle. The revision resulted in the inclusion, exclusion or alteration of levels, dimensions and/or criteria, their names and descriptions. Finally, towards application of the model in future research the researcher developed a survey instrument whereby from each dimension and criteria a question item was generated.

4.3. Expert Consultation for Validation of the Model – The Delphi Technique

The Delphi Technique is a systematic method of consultation with experts around a particular topic to arrive at a consensus view on what is being investigated through a structured process of communication around what is usually a complex problem (Day & Bobeva, 2005; Linstone & Turoff, 2002).

Through an iterative process of consultation with experts, facilitated by an administrator/facilitator (in this case the researcher), the technique allows for the combining of perspectives of the consulted participants towards a more comprehensive understanding of the problem at hand and the generation of a consensual resolution (Powel, 2003; Skulmoski et al, 2007; Wakefield & Watson, 2014). Day & Bobeva (2004) elaborate on the Delphi technique which is to be done in three phases: exploration, distillation and utilisation.

In the exploration phase the problem is identified, leading to the exploratory or confirmatory purpose of the technique. In parallel preparations are made in relation to the identification and securing of panelists and the formulation of termination criteria

for the consultation rounds. The distillation phase consists of the series of consultation rounds whereby the panelists are consulted for their expertise on the matter. This is done through an iterative approach whereby after each round the facilitator consolidates the perspectives for convergence and presents the results of this consolidation back to the experts in a next round alongside possibly divergent views of some of the panelists for further discussion. This process is repeated until the facilitator is of the view that consensus among the experts is met or on the basis of predefined termination criteria.

The consultation process itself, even though reported under a series of variations (Linstone & Turfoff, 2002; Powel, 2003; Skulmoski, et al, 2007; Wakefield & Watson, 2014) commonly provides for anonymity around expert inputs and feedback loops under the form of iterative consultation whereby experts review convergent/divergent outcomes but equally can review their own positions on the matter. The technique has been argued in the literature to be advantageous for a number of reasons (Day & Bobeva, 2004; Donohoe, et al, 2012; Linstone & Turoff, 2002; Okoli & Pawlowski, 2004; Wakefield & Watson, 2014).This will be addressed in the light of this study in terms of the technique's legitimacy and appropriateness for model building and testing, its ability to enhance insight in complex problems through the reflexive nature of the iterative process, notions around administration, the anonymity of the participants and the richness of the data it produces. The literature on the building of maturity models (Wendler, 2012) specifically mentions the Delphi Technique with experts as a legitimate option for the construction and validation of models.

4.3.1. Design Considerations

Day & Bobeva (2004) point to the vital need to give consideration to the design of the study towards the scientific value of its outcome. They identify various points that need to be given attention: the study's purpose, the selected participants (and the number required per round), anonymity, number of consultation iterations, concurrency of the consultation rounds, operation mode, communication used for administration. Each of these considerations will be discussed briefly in order to present the place of the Delphi Technique in this study and argue its relevance. Table gives an overview of the choices made for this study following the design structure outlined by Day & Bobeva (2004).

Table 13: Design Criteria for Delphi Technique

DESIGN CRITERIA	OPTIONS			
Purpose	Theory/model building	Exploration	Hypothesis testing	Evaluation of options
Participants	Homogeneous		Heterogeneous	
Anonymity	Full	Partial		Not Anonymous
Maximum number of rounds	2	3	4	>4

Table 13(Continued) : Design Criteria for Delphi Technique

Participants per round	Target of 7 panelist per round			
Concurrency of rounds	Sequential		Simultaneous	
Mode of operation	Face to face	Hybrid		Remote
Communication media	Postal mail	telephone	Fax	e-mail/Internet
Other termination criteria	Final Consensus > 70%; no less than 7 panelist in round			

4.3.1.1. Purpose

With regards to the purpose of the Delphi Technique in this

research, i.e. the validation of the first version of the model (as part of the model

building), the literature abundantly asserts the appropriateness of this method in

general for theory building (Day and Bobeva, 2004; Linstone & Turoff, 2002; Powell,

2003 Skulmoski, et al, 2007; Wakefield & Watson, 2004) and in the context of

maturity modeling in particular (Wendler, 2012). This validation will allow the

researcher, in future research, to advance towards a stage of pilot testing the model

with a high level of certainty around the validity of the model. The technique aims to

bring forward a deeply scrutinized set of articulations around the different dimension

of the model through commonly agreed upon vocabulary (Okoli and Pawlowski,

2004).

4.3.1.2. Participants

In terms of the compilation of experts for the Delphi Panel,

Skulmoski, et al (2011) argue for the availability of knowledge and experience around

the problem, ability, willingness and time to participate and appropriate

communication skills. Each of these have been given consideration by the researcher

in the selection of the panelists. Given the importance of the engagement of the

participants to generate valuable findings (Donohoe, 2011; Okoli & Pawloswki, 2004)

the researcher has opted to select experts out of his personal network or through

direct, personal recommendation by members of his personal network. This choice is

deliberate to generate a sense of social contract between the researcher and the

participants whereby the personal relationship arguably would result in higher

probability of engagement than a purely functional relationship in the consultation

session. The requirement of ultimate objectivity was highlighted as a fundamental

requirement to the participation in this consultation. The participants were further

selected following the recommendations of Rosemann & de Bruin (2005) and Day &

Bobeva (2004) whereby the criteria for identification are of the nature of geography,

experience, expertise, qualification and seniority. The geographical spread is argued to

be important in order to capture views from different parts of the world around the

topic of discussion. The literature around employability and HE has revealed that this

is a context-specific topic that has been given attention worldwide. The geographic

consideration is to assure the capturing of views on the topic that may be based upon

different educational and socio-cultural systems. The participants that were initially

confirmed to participate in this study were from Scotland, South Africa, Australia,

New Zealand, Bahrain, UK and the Netherlands. The choice of these participants

allows the representation of a variety of different contexts on HE and employability

and captures both educational systems wherein employability has been a topic of

discussion for a few decades with a fairly chosen and set route of institutionalization

(Europe/UK, Oceania) and areas where employability is arguably not yet that

institutionalized in the rhetoric of its public policy on education (Bahrain and South

Africa).

Experience was considered as a second criterion for selection

whereby the argument of a reasonable amount of experience in the related field adds

to the participant having strong insight in HE and its relation to employability.

Expertise in the field was considered as a third criterion for selection, whereby the

researcher selected individuals with relevant experience in the context of this study

covering both academics and practitioners in the fields of HE Management, HE

Quality Assurance (inclusive of employability), Academic Research (inclusive of

employability, education and teaching and learning), Knowledge Management, Career

Development and Teaching and Learning at HE (inclusive of employability). The

researcher has searched for participants with profiles that reflect active involvement in

employability development in a HE context, research on the topic and/or quality

assurance of HE fitness for purpose. The researcher has furthermore attempted to

include people with industry experience, in particular with affiliation to the process of

hiring people. Considering the access to experts and the timeline of completion of the

study the recommendation of Day & Bobeva (2004) of a minimum of seven experts

has been followed. A summary of the initially selected profiles is presented in

Table .

Table 14 : Delphi Technique Projected Panelists

Participant	Geography	Experience	Expertise	Qualification	Position	Industry Experience
1	Scotland	20+yrs	Quality Assurance, T&L, HE Management, Research	Phd	Executive Director, Dean, Professor	yes
2	UK	10+ yrs	T&L, research	Phd	Professor	TBC
3	South Africa	20+yrs	T&L, HE Management, Research	Phd	Professor, Dean	yes
4	New Zealand	10+yrs	Career Development in HE	MA	Programme Manager Career Development	TBC

(Continued)

Table 14 (Continued) : Delphi Technique Projected Panelists

Participant	Geography	Experience	Expertise	Qualification	Position	Industry Experience
5	Australia	7+yrs	KM, Higher Education, Learning Consultant, Business Mentoring	Phd	CEO, Senior Industry Fellow,	yes
6	Netherlands	15+yrs	HE, T&L, Quality Assurance, KM, Research.	Phd	Assistant Professor	TBC
7	Bahrain	10+yrs	Quality Assurance, HE Management, Research, T&L	Phd	Academic Quality Specialist	no

4.3.1.3. Anonymity

The approach of anonymity of the participants in the Delphi Technique is chosen in order to develop consultation that presents each expert's view at the same level of importance through participation that is as democratic as possible. Even though this approach has been subject to critique (Linstone & Turoff, 2002), it is adhered to by the researcher on the basis of anonymity being argued as a fundamental commonality of administration of the Delphi Technique in the literature as presented above. The researcher considers that anonymity lessens the phenomenon of groupthink, which may lead to suboptimal results due to undesirable pressures. Anonymity is arguably an appropriate approach towards getting honest expert views that are uninhibited by influences on the basis of the other participants' field of expertise or academic standing and therefore resulting in higher probability of the generation of possibly divergent views thus helping to gather critical and contrasting views. The participants were however informed of the general pool of expertise that is being drawn from for the discussion in order to generate a sense of credibility around the emergent opinions and generating a sense of pride and positive curiosity among the participants towards the involvement in this discussion. Therefore it can be argued to be a choice of partial anonymity in the design framework of Day & Bobeva (2004).

4.3.1.4. Number of rounds and concurrence

Following the recommendation of Linstone & Turoff (2002) and Donohoe, et al (2012) the researcher aimed to close the consultation after four rounds of consultation due to the risk of a decrease inresponse quality beyond this point. Typically two to three rounds appear to be the standard amount of consultation

iterations a Delphi Technique goes through (Day & Bobeva, 2004; Wakefield & Watson, 2014). This objective required careful consideration of the information that was hoped to be ascertained out of the rounds of consultation. The consideration of time to complete the study was also a factor to be considered in the choice of how many rounds are appropriate towards the advancement of the study. This consideration further informs the concurrence of the rounds of consultation to be sequential as each round distinctively built on the results of the previous round.

4.3.1.5. Mode of operation and communication media

The Delphi Technique was conducted through a remote and electronic mode of operation by means of communication with the experts through email. The use of an online forum would allow for discussions around topics yet this requires a higher level of involvement from the participants as compared to a single facilitator – researcher mode of interaction. This is therefore not considered due to the vital nature of the willingness to participate in the study, and higher demands of engagement may result in decreased willingness to participate.

4.3.1.6. Engaging in the consultation rounds

This process is discussed round per round in this section by concisely stating what was aimed to be presented to the panelists, the tasks they were asked to perform and the subsequent analysis and design actions the researcher aimed to take as a result of each round. Progression from one round to the next can only took place after checking termination criteria where appropriate. Wherever participants were asked to award an 'appropriateness score' towards an item or statement, a Likert scale of 1 (highly inappropriate) – 4 (highly appropriate) was used. The choice of an even Likert scale is to avoid the issue of central tendency of responses.

Round 1

The participants were presented with:

- a general description of the approach of maturity modeling towards the diagnosis of a HEI's approach to employability

- the general description of each of the maturity levels

- the dimensions of the maturity model and their operationalization

- the criteria of each of the dimensions with their operationalization

The participants were asked to perform the following tasks:

- (T1.0) Score and comment on the use of maturity modeling for the diagnosis of a HEI's approach towards employability.

- (T1.1) Order the general description of each of the maturity levels from least mature to highly mature and provide an overall justification for the ranking.

- (T1.2) Score each of the dimensions on their appropriatenessas a diagnostic dimension.

- (T1.3) Give a rationale for each awarded appropriateness score in (T1.2) if the score was below 3.

- (T1.4) Score each of the criteria on their appropriateness as measurements for the dimensions.

- (T1.5) Give a rationale for each awarded appropriateness score in (T1.4) if the score was below 3.

- (T1.6) Suggest additional dimensions or indicators for the model with a rationale for their suggestion.

Analysis and Redesign:

The responses to (T1.0) were collated per panelist and a general evaluative statement was drafted on the basis of the comments.

The order of the descriptions of the maturity levels (T1.1) wereevaluated, scored and reported by means of the frequencies of ranking. Discrepancies were accepted up to 30 % disagreement.

The appropriateness scorings of the different dimensions and criteria (T1.2 and T1.4)wereanalyzed by means of computing average scores and report on the agreement between experts. Dimensions and indicators that receive an average appropriateness score lower than or equal to 2 will be removed from the model. The comments on each of the dimensions' rationales (T1.3) and indicators' rationales (T1.5) wereanalyzed and a consolidated comment for each of the dimensions and criteriawas developed. Suggestions of additional dimensions and criteria (T1.6) were reviewed and rationales for each will be developed. Finally the statements for dimension/criteria for each maturity level will be reviewed and adjusted on the basis of (1) newly identified dimensions or criteria and (2) comments on the dimensions and criteria that were presented.

Round 2

The participants were presented with:

- Results on the scoring of the approach of maturity modeling to diagnose a HEI on its approach to employability.

- Reported discrepancies on (T1.1) (if emerged) inclusive of the consolidated scoring.

- Newly suggested dimensions with operationalization (if emerged from round 1).

- Newly suggested criteria per dimension with operationalization (if emerged from round 1).

- A maturity statement per dimensions and per criteria for each maturity level.

The participants will be presented with the following tasks:

- (T2.0) Score the newly suggested dimensions/criteria (if emerged) for appropriateness and comment if the score is lower than 3.

- (T2.1) Score the maturity statements per dimension and per criteria on its appropriateness.

- (T2.2) Comment on the maturity statements for each dimension and criteria in relation if the score is below 3.

Analysis and Redesign:

The researcher developed final reporting on the results of (T2.0), (T2.1) and (T2.2). Appropriateness scores for the maturity statements per dimension/criteriawere computed as averages of all the panelist scores. Comments of (T2.2) will be consolidated and used to review the maturity statements of each indicator per dimension. Rationales were developed towards inclusion/exclusion of the newly proposed dimension/indicators (if emerged). The model was then finalized in terms of the dimension, the criteria and content that populates each maturity levels.

Round 3

The participants will be presented with:

- Rationales to the inclusion/exclusion of the newly proposed dimensions/criteria (if emerged).

- Outcome of dimensions/criteria statement scorings.

- All dimensions.

- All criteria.

The participants will be presented with the following tasks:

- (T3.0) Scoring for acceptance or rejection of the rationales towards inclusion/exclusion of newly proposed and appropriately scored dimensions/criteria.

- (T3.1) Assign weightings to each of the dimensions and their respectivecriteria.

- (T3.3) Present a final statement with any comments on this study.

Analysis and Redesign / Closing:

The researcher consolidated the weightings assigned by the panel for each indicator (T3.1) by means of computing averages and ranking values. If termination criteria are met, the Delphi Technique was projected to be closed after the 3rd Round, should the researcher feel the need to reconfirm or further explore consensus, a 4th round would be invoked.

Round 4

Participant would be presented with additional information required towards the closing of the consultation. Participants would be asked to evaluate the necessary towards closing of the expert consultation.

Closing:

Upon meeting the termination criteria, the Delphi Technique will be closed, final results will be produced and recorded.

5. Research Plan

This research is developed following the schematic presented in The research plan can be divided in to sixgeneral phases whereby each of the first five phases are realized following the methodology described above. The research sequence in general follows the three cycle design model presented by Hevner (2007) whereby the construction of the EDAMMv2 is realized by means of iterative Design, Relevance & Rigour cycles.
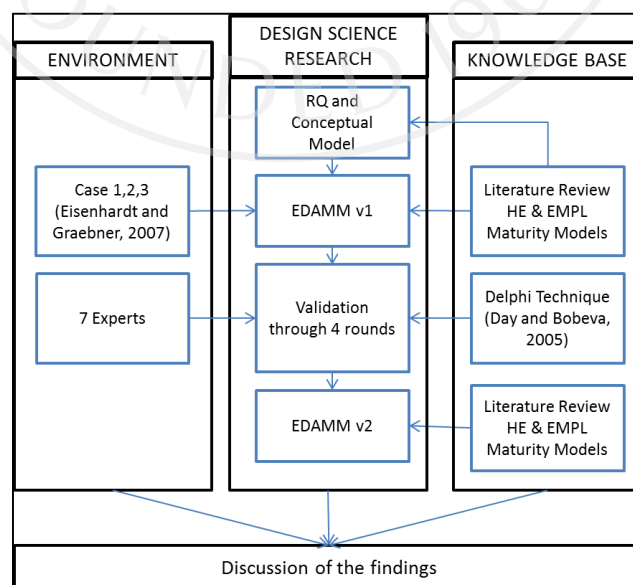
Figure 3: Research Sequence Schematic for the development of the EDAMM

6. Reliability and Validity of this Study

In order for a research project to be considered as scientifically relevant, conceptions around reliability and validity of the approach are fundamental. Reliability and validity are reflections of quality assurance towards the way the study is conducted and the results it produces (Creswell, 2009; Saunders, et al, 2012). In order to give credence to the approach described above, this section will discuss both concepts in relation to the study and outline how the researcher has attempted to tackle both research quality criteria of reliability and validity. This section will mainly draw upon general research methodology works such as Creswell (2009), Saunders, et al (2009), Bhattacherjee (2012) and Yin (2002), to argue the scientific rigour of this study. As indicated at the start of this chapter, the recommendation of Fossey, et al (2002) was followed throughout the description of the methodology by means of providing a detailed description and careful argumentation of choices made. That being said, more specific considerations have been given to this methodology in terms of validity and reliability of the study, which will be discussed in the remainder of this section. In general, Gibbs (2007) (in Creswell, 2009) presents the notion of qualitative validity as the strength of the researcher's argument around the accuracy of the findings whereas qualitative reliability concerns the consistency of approach across researchers and projects involved.

6.1. Validity

Validity is concerned with the notion whether the methods put in place for investigation achieve the objective for which they are deployed (or set out to measure) (Creswell, 2009; Bhattacherjee, 2012; Saunders, et al, 2009). Validity concerns the quality of construct operationalization and its subsequent instruments (and measures)

put in place for appreciating these constructs in context. Creswell (2009) further argues that validity in qualitative studies is a matter of the level of credibility the research instills in its audience. This notion is echoed by Bhattacherjee (2012) who refers to the evidencing of the dependability and trustworthiness of a variety of aspects to the study inclusive of its overall design, methods used and findings drawn.

Creswell (2009) suggests eight strategies of which he argues the researcher is free to choose in order to make the case for the validity of the study. At the same time, the argument around choice is logically – and this fits well with the pragmatic stance the researcher has taken in this study – guided by appropriateness with the relevant aspect of the study. Creswell does argue though for the incorporation of multiple mechanisms toward the provision of a robust argument and covering a variety of potential issues around validity. As will be argued below, the researcher draws widely on these mechanisms.

6.1.1. Triangulation

In this research, a variety of data sources are used to build a coherent argument. These various data sources consist of data sources from the sites selected for the cases (key informants, information in the public domain, employability documentation and observation), the exhaustive literature review around critical practices in HE for employability and the value judgment of experts in the field that cover (al be it limited) a HE-employability perspective multiple continents. Based on the context in which the various data sources are set the researcher claims confidence that the information yielded addresses the identification of HE practice conducive to employability and the investigation of diagnosis thereof. Patton (1999) argues for the inclusion of multiple perspectives as advisable practice, which is followed in case

studies and the Delphi Technique. Saunders et al (2009) refer to the strengthening of internal validity by inclusion and consideration of alternative explanations. This is addressed through e.g. inclusion of a variety of respondents and open questions in the case study/interview and by provision of anonymity and consultation in isolation in the Delphi Technique. Finally, the literature review undertaken for this study (as the foundation for the multiple rigour cycles) will further contribute to the evidence that the results of the study are valid.

6.1.2. Member Checking

This is referred to by Patton (1999) as a form of analyst triangulation whereby the findings of the study (particularly in the case of interviews) are presented back to the participant for review and agreement, which is a technique that is deployed in the case studies with respect to the key informants. For the final case of application, a debriefing session was held whereby the key informants were given the opportunity to comment on preliminary results and findings. For the Delphi Technique, this is incorporated in the different rounds of consultation.

6.1.3. Rich Description

Through the collection of data from a variety of sources the researcher had the opportunity to provide a very rich description of all three cases that are part of this model. The case studies are furthermore purposefully sampled, which increases the likelihood of access to a variety of sources with pertinent information. The description of each of the rounds of the Delphi Technique is also designed to provide a wide array of data to draw from for rich description on the back of the open-endedcomment section the survey instrument included in every round.

6.1.4. The Researcher's bias

The researcher has - through repeated reflexivity - taken account of how his personal position affects the way the study progresses inclusive of the interpretation of results. Since the researcher is in fact the main collector and interpreter of the data, the potential bias basis of who the researcher is and what that brings to the project needs to be carefully considered and shared with the audience in terms of the interpretation of the data.

6.1.5. Negative or Discrepant Information

The researcher was for the case studies and the Delphi Technique alikevigilant for information and findings that potentially challenge the general direction of the study. The Delphi Technique in particular is of interest for this exercise and strictly adhered to its termination criteria. Outliers in terms of ratings or views that significantly differ from the consensus were treated as opportunities to review the model for e.g. contextual anomalies in line with the situation of the expert.

6.1.6. Deep Immersion in the Context

The argument around the immersion in the context starts by the evidence of the literature of this study and the experience of the researcher in HE through current and past employment. Both points give the researcher a strong foundation towards the interpretation of purposefully collected or emergent data. Given earlier presented constraints (access, time and resources) the researcher may not have been able to spend substantial time on site for each of the three cases. This was countered by extensive investigation of their websites and vigilance upon site review. Furthermore, the researcher kept a log book in which all experiences and observations were carefully recorded. This allowed for careful reflection and mental revisiting of

the site. By being the administrator/facilitator of the Delphi Technique, the researcher was perfectly positioned to observe and carefully interpret the evolution towards consensus.

6.1.7. External Auditor to Review the Project

Various components of this study have been subjected to peer review as part of publications that have been realized as this research endeavor has been progressed over the last 4 years. This includes presentations at conferences and peer reviewed publication of the first version of the model. It was further reviewed by a variety of committees at Bangkok University and Telecom Ecole de Management. For certain components of the study i.e. question items of surveys (interviews and Delphi Method) the technique of piloting was used with people who are active in the field of HE and employability in order to confirm face validity of the instruments in question.

6.2. Reliability

Reliability, or in qualitative studies also presented as repeatability - refers to the notion of whether a process of investigation would yield the same results given that it is undertaken again in a similar or the same situation (Creswell, 2009). Yin (2012) argues the use of what is referred to as a research audit trail, which presents documented evidence of what has happened and what the reasonable explanation for that are. The researcher has kept a log book and describedsupporting documentswithenough level of detail in order to ensure ease of repeatability of the study in a different context (Creswell, 2009). In terms of the development of the model, as documented in this thesis, the researcher followsvery carefully constructed design processes (Mettler, 2009; Hevner, et al, 2004; Hevner, 2007; Hevner & Chatterjee, 2010a, 2010b), a multiple case study approach (Eisenhardt, 1998;

Eisenhardt & Graebner, 2007; Yin, 2012, 2002) and pertinent rooting of the development and application of the Delphi Technique in the literature (Linstone & Turoff, 2002; Day & Bobeva, 2004; Wakefield & Watson, 2014) which all contribute to the argument of repeatability of the study.

The researcher further regularly engaged in self-reflection and self-evaluative processes in order to make sure that the key construct definitions are maintained throughout the study (Yin, 2012 and Creswell, 2009). The researcher has approached a colleague, who is currently also pursuing her Phd and also follows a qualitative approach to her study, to function as a second coder for a variety of data from the field visits in order to argue inter-coder reliability (Creswell, 2009). The researcher has further presented vigilance for bias or limited knowledge and interest of respondents. In most cases the respondentswere purposefully sampled which allows to control such types of bias to a certain extent. Some of the preliminary findings of the study (i.e. the development of the first version of the model) was accepted for publication in a double-blind peer reviewed academic publication, further strengthening the scientific rigour that was employed in the realization of this study.

7. **The role of the researcher in the study**

The researcher has been an active faculty member in two Business Schools at HE level in the Kingdom of Bahrain. Over the last 5 years of his employment he has been actively involved in sculpting a HE transformation process that puts employability at the heart of its 'raison d'être' and can therefore be considered knowledgeable about the subject not only as a theorist, but also as a practitioner. The researcher has furthermore developed, and continues to do so, a number of publications in the scholarly and practitioners field around the topic. This dual insight

as practitioner and theorist on the matter gives confidence in the ability to effectively interpret the findings from the different site visits and draw meaningful conclusions. It also allows for a critical stance on the topic in relation to evaluating information that is being presented by organizations and be able to effectively probe in order to clearly differentiate between espoused and enacted elements in the discourse of HEI's around employability. Through experience, the researcher is aware of the finer details around the difficulties of implementation of what in theory seems straightforward and sound practice in a HE-employability context. At the same time, the researcher nevertheless remained vigilant towards his objectivity in evaluating different approaches to employability compared to what he may be familiar with, and kept an open mind towards the possible emergence of new key themes around how HEIs address employability. Given the approach to this study – particularly around the site visits and the Delphi Technique – the researcher's (and by association his advisors' network) professional network has proven to be highly beneficial. This network has over time become considerably strong in relation to the topic of investigation and should warrant for sufficient credibility around the data sources and expert opinions used in this study. As this methodology presents quite significant demands in terms of resources this has arguably been the more reasonable approach in order to be able to gather relevant data to advance this study towards a successful outcome considering the timeframe and the financial constraints.

CHAPTER 4

DEVELOPMENT OF EDAMMv1 OUT OF 3 CASE STUDIES

"I paint what I see, not what others like to see."

The case studies used for the purpose of this study concern the programme offerings of three HEIs in terms of how they tackle the transformation of entry level students into employable graduates. The HEIs in question are located in Bahrain (HEI1), Thailand (HEI2) and France (HEI3) whereby this provides data collection in various cultural contexts, arguably supporting some claim – al be it limited – towards generalization of the findings. The focus of the reported information is the institutional practices in place to develop (and assess) employability in graduates. A series of activities relevant to this transformation process will be identified which will function as the structure of the model this study aims to produce by means of its relevant components (i.e. levels, dimensions and criteria). A series of gradient statements that expresses the conduciveness to employability of each of dimensions and criteria are developed resulting in a first version of the diagnostic maturity model this study aims to deliver.

HEI1 is a relatively young public institution that was founded with the very objective to enhance the employability of the upcoming working generation of Bahrain in the context repositioning of the Kingdom's economy to one that is more diversified and tackling a call from industry for local graduates that are more compatible with the needs of industry. Even though HEI1 offers the traditional undergraduate business programmes (i.e. management, banking and finance, marketing, logistics and accounting), they have been designed and developed with a clear focus on the development of work-ready young professionals for the 21st

Century around what is institutionally referred to as a set of eight employability skills. The institution is a prime example of the blurring lines between the 'pure sang' academic HEIs and those that are highly vocational or deliver certifications that focus on specific professions. The reported rate of graduate employment within one year of graduation sits around 90%, suggesting the institution tackles the chasm between human capital output by HEIs in the Kingdom and the expectations of the local labour market quite effectively. The demand side for the graduates further reports the output of the institution in terms of human capital to be different from other graduates in the Kingdom, particularly in terms of personal attributes e.g. attitude. For further details on the institution and its context the reader is referred to Appendix 3.

HEI2 is the international wing to its overarching HEI that has been operating in the Thai HE landscape for over 5 decades. The underpinning view on education is one that values the development of well-balanced individuals whereby it assumes a holistic perspective on its value offering for learners. HEI2 offers a variety of undergraduate programmes across business oriented fields such as Entrepreneurship, Marketing, Hospitality, Business English, Communication Arts and the Field of Mulitmedia and Graphic Design. The institution prides itself on the three underpinning values that drive its transformation process (i.e. creativity, entrepreneurship and internationalization) on which it claims its differentiated position in the HE landscape. The institution reports a graduate employment rate of 90% within one year with approximately 25% being self-employed.

HEI3 is a public management school that runs in the tradition of the 'French Grandes Ecoles' and has recently joined the prestigious center of excellence of Paris Saclay. The school's unique positioning in the HE landscape is due to its affiliation

with a highly regarded HEI in the field of Engineering and Sciences. The school offers undergraduate, graduate and post graduate programmes whereby in each attention is given to a dual expertise in management and ICT. The institution furthermore has systems in place to foster an entrepreneurial spirit in its learners and has been successful in generating a sizable list of spin-offs through its on campus incubator. The school manages to report impressive statistics around the end result of their HE offering in terms of both employment in the field and earnings. Around 70% of their graduates secure a job before graduation, 99% of the graduates find a job in their field within six months from graduation and the school ranks among the top 10 management schools in France in terms of salary upon graduation and is ranked 2nd for alumni salaries after 3 years of graduation.

Following the methodology outlined in chapter 4 of this manuscript, the main data sources used are key informants. The other three data sources (observation, employability documentation and information in the public domain) form part of the triangulation of the data collected through the interviews for validity and reliability and will be woven into the presentation of each of the cases where deemed required and appropriate. Following a saturation approach towards data collection and considering the objective of the study (to identify good practice and to develop a diagnostic model), the first case study is the most in depth and was used to set a strong foundation for gathering insights around 'in the field' practices in progression to the second and third case. The first case study furthermore describes the youngest institution which has had employability as a carefully articulated focal point from its very inception. It was evident from the following two case studies that the practices of case 1 gave an overall quite comprehensive account of indicative good practice

around how the HE transformation process can be put in place to be conducive to employability. Case study 2 and 3 echoed many of the practices that emerged out of investigating case 1, however they also present some specific findings around the topic in particular around the inclusion of industry in the transformation process. They were nevertheless conducted at a somewhat more limited level of depth compared to the first case study, for a variety of practical reasons around accessibility and time constraints as mentioned in the methodology section and acknowledged in the section around limitations in chapter 6 of this manuscript. Reflecting back, the choice of case 1 as the first case was sensible and logical in terms of having identified the institution where the theme of employability was the most explicitly reported on. That being said, both other cases were chosen for their strong results around destination data, giving a good insight in how more mature HEIs manage the realization of employability. For each of the three cases the same academic rigour was applied to safeguard validity and reliability of the findings. The five themes that emerged from the literature review seemed sufficient enough to in general capture all activities that can be reported to take place for an effective address to employability. This gives confidence that the literature review has managed to present an appropriately comprehensive overview of the current state of the art. This five-themed-structure will therefore serve for each case study as the format for its development.

To remain focused on the purpose of this study, the detailed outline of each of the three case studies is presented in Appendix 3,4 and 5 respectively. These comprehensive descriptions do not venture out too much into contextual factors around the institutions and their operations because such influencing factors fall beyond the scope of this study and may distract from the purpose of the case studies

i.e. identification of employability-conducive practice. That being said, where required, the various contextual factors are noted as it would be shortsighted discuss the cases in total absence thereof. The body of this manuscript will only address the tail end of the case study approach to the development of the model i.e. the summarized presentation of cross-case patterns and how these inform the construction of the first version of the model: EDAMMv1.

1. **Cross-Case PatternSummary and Construction of EDAMMv1.**

When evaluating and comparing the three cases, the objective of developing employable graduates is a first and foremost commonly 'actioned' theme beyond a mere aspiration, which gives initial confidence that the choice of the institutions was in fact a sound one with respect to the probability of finding employability-conducive practice. Each of the three institutions has employability embedded in its rhetoric around purposeful and quality HE in recognition of the current influence employability has in terms of positioning the institution today's competitive HE landscape as well as towards the expectations by various stakeholders. Each of the three cases evidences a commitment to the development of employability in its graduates yet with different operational foci. It is clear however that each of the HEIs reflects institutional structures whereby the core activity that contributes to employability is curricular in nature and supporting activities are administrative /operational in nature. The manner in which the support activities and the core activities are intertwined with one another through effective information flow and strategic coordination is clearly impactful on the effectiveness of the employability transformation process. Of particular interest in this regard is the manner in which career support services and industry interface with the curricular activity.

1.1. General Institutional Approach

Each of the institutions has activities in place that largely conform to the thematic activities identified in the literature with no other general themes emerging. This supports the use of a five dimensional structure to the model. Towards building the EDAMMv1, the researcher concludes the following five dimensions as the overarching structure: Curriculum, Support Services, Leadership, Industry Relations and Quality Measurement. Table presents the general operationalization of each dimension moving forward alongside notes on the difference with the thematic activities from the literature where necessary.

Table 15: Structural Dimensions of EDAMM

Dimension Label	Description	Note
Curriculum	the curricular activities that are core to the realization of the HE transformation process	No substantial difference with the thematic activity of Curriculum as identified in the literature.
Support Services	the employability oriented support services that are offered to learners in the institution	The cases have indicated that this primarily focuses on Services delivered around notions of Career for the learner even though initially the approach of the researchers was to include other support activities (e.g. Marketing and Alumni).

(Continued)

Table 15 (Continued): Structural Dimensions of EDAMM

Dimension Label	Description	Note
		Review of the cases further indicated that the support activities apart from Career Support Services were more strategic in nature and will therefore be included in the Leadership dimension.
Leadership	the institutional management approach towards orchestrating theHEI's address to employability	No substantial difference between the thematic activity 'Leadership' as identified in the literature apart from the additional consideration of some of the support activities initially included in 'Support Services' as discussed above.
Industry Relations	the mechanisms around the involvement of industry (including public sector) in the transformation process	This concerns activities that were found in the theme around the engagement of employers and industry in the HE transformation process as per the literature review.

(Continued)

Table 15 (Continued): Structural Dimensions of EDAMM

Dimension Label	Description	Note
Quality Measurement	the institutional approach to evidencing the impact of the transformation process on employability in a quality context	No substantial difference with the thematic activity of Quality Measurement as identified in the literature.

Each institution, as can be expected, has its own particularities around the five main dimensions and deploys the concerning activities in its transformation process based on capacity, capability and strategic priority. As the remainder of the write up will evidence, certain activities are given more attention and enjoy higher levels of sophistication in terms of how they address employability as compared to others. This supports the further development of the practice of maturity modeling by means of criteria per dimensions, gradient descriptions at various levels of granularity and a sense of weighting of each component in a diagnostic context.

Overall it would be fair to say that HEI1 has its largest focus on the curricular side of things with a strongly articulated and deliberately chosen T&L philosophy evidenced to be conducive for employability. Its focus is predominantly curricular-process oriented, which is not surprising since it is a young institution and a regional pioneer for the T&L strategy it deems appropriate to respond to its primary mandate of developing employable graduates. It therefore focuses on the local labour market and its priority is to build the reputation of its graduates and by association its own image. This focus should not be mistaken for exclusion of internationalization because

the labour market in Bahrain is highly international and effective communication in the English language is considered as a major strength when it comes to employability. The institution has embedded a series of generic ꞌemployability competenciesꞌ in its programme which are evaluated through assurance of learning practices.

HEI2ꞌs focus lies on developing creative individuals for the 21st Century through a learning experience that combines traditional classroom practice, practical application of knowledge and support activities on campus. The support activities around career competencies form a formal part of the graduation requirement. The main driver to the transformation process is the development of the institutionꞌs DNA of Creativity, Entrepreneurship and Internationalization. The command of English is considered a major factor for employability. Its focus is predominantly the national labour market.

HEI3ꞌs focus is predominantly on the development of industry relations for the purpose of having authentic learning experiences in its curriculum but equally towards the building of a tightly knit professional network for the institution and its graduates. The institution has carved out a very strong image and position in the public opinion and the professional world alike, allowing it to thrive in terms of destination data for its fresh graduates and its alumni. In line with the national recognition of value towards experiential learning, the institution provides as many opportunities as possible for the learners to engage with industry and from the get-go places the onus on the learner to engage with the opportunities of authentic learning. Interdisciplinarity is a clear competitive advantage for the institution by means of its unique position to share the campus with a reputable engineering school, leading to

spill over benefits for learning experience, growth of relevant industry acumen and the building of professional identity of its learners.

Considering the construction of the EDAMMv1, the various foci of the three cases support the use of the five maturity levels as proposed by Vande Wiele et al(2014): traditional, espoused, enacted, integrated and optimized. The choice of these levels indeed follows a logical progression around how employability as a goal would be internalized by an institution. Table outlines the maturity notions captured by each level in a highly concise manner in order to introduce its general nature before venturing into the further evaluation of each dimension and producing the gradient descriptions of each of the criteria and a summarizing gradient description at dimensional level. The evaluation presented below will highlight the manner in which the different cases are spread across the various levels.

Table 16: Descriptions of EDAMM maturity levels advanced from the work

Maturity Level	Description
Traditional	Employability is not considered as the 'raison d'être' for a HEI and at best assumed to naturally develop as a by-product of traditional HE practice without the need for particular mechanisms that focus on the construct.
Espoused	The HEI has a formally stated intention to develop employability in its graduates but lacks clear implementation of practices to realize this goal.

Table 16 (Continued): Descriptions of EDAMM maturity levels advanced from the

work

Maturity Level	Description
Enacted	The HEI formally acts on the intention of realizing employability through the active pursuit of various practices that are deemed appropriate to address employability.
Integrated	The HEI has a clear, institution-wide orchestrated collaborative approach that places employability very central to its 'raison d'être'.
Optimized	The HEI sets the benchmark for the employability transformation process in its field and continuously fine-tunes its practices resulting in a 'first choice' position in terms of association from a stakeholder perspective.

1.2. Dimension Specific Approach

1.2.1. Leadership and its Criteria

The evaluation of the leadership theme has resulted in the

identification of six criteria that prove to be highly relevant to the manner in which

the organization manages the institutional address to employability. These six criteria

are: institutional definition, overall strategy, human resource strategy, organizational

culture, decision making and institutional practice. Table outlines a concise

operationalizing description of each criterion which will be elaborated on below in the

discussion.

Table 17 : Leadership Criteria EDAMMv1

	Criteria	Description
Leadership	Institutional Definition	the institutional approach to articulating the concept of employability
	Overall Strategy	the place of employability in the strategic direction of the institution
	HR Strategy	the manner in which the human resource strategy supports the agenda of employability
	Organizational Culture	the level to which employability is embedded in the organizational culture
	Decision Making	the influence employability as a goal has on decision making
	Institutional Practice	the form in which management and leadership drives the agenda of employability throughout the whole organization

1.2.1.1.   Institutional definition:

None of the three institutions have a formal definition around

what employability in fact is. A consensus of all three cases suggests that

employability is mainly viewed from a perspective of meaningful employment in the

field upon graduation or being self-employed. This is an important qualifier towards

addressing employability because it allows for the creation of a common

understanding and acceptance of the goal the institution pursues. HEI1 is the only

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institution that has an institutional set of generic competencies it believes its graduates

need to attain and to which its operations can be focused. The other two institutions

have more generic values or argue the alignment of programme specific graduate

profiles or course outcomes as sufficient in order to give a more formalized address to

the notion. Further than employment upon graduation, the majority of respondents in

all case studies articulate the employability construct around work-readiness for

today's economy and some indicate the idea of work readiness for the economy of the

future whereby not only field specific competence but notions around being a well-

rounded individual and professional able to effectively secure and maintain

employment are certainly considered as worthy of inclusion. Given the consistent

approaches of each of the institutions, even though they do not reflect this in a

formally defined statement, they indeed value the development of the wider individual

rather than merely focusing on field specific competencies, giving credence to the

holistic view on employability.

Based on interpretation of the findings from the case studies,

the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 18: W Gradient Description 'Institutional Definition' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal institutional definition.	There is a formal rhetoric around employability that is primarily based on buzzword semantics.	The definition of employability has primarily national relevance and holds substance that is linked to a larger approach to employability development. The construct is defined with a focus on work readiness.	An institution wide definition of employability is developed in collaboration with external stakeholders and holds relevance to external and internal environment of the HEI. The construct is furthermore broken down into a variety of concepts that allow contextualization across programmes and institutional activities. The definition approaches employability from a lens of human capital relevant to the future economy.	The institutional definition of employability is a clear reflection of the well balanced individuals that will be required for the future in both economic and societal context. The definition and the institutional understanding of the construct consistently link with the programme and institutional outcomes. The definition is holistic and connects ideas such as lifelong learning, career competencies and societal development.

1.2.1.2. Overall Strategy

Each of the cases illuminates the recognition of strategic importance of employability in terms of HE that is fit for purpose but also helps to position the HE institution in an ever more competitive landscape vis-a-vis recruitment of new learners. The inclusion of employability as an espoused strategic objective does not however always translate in dedicated actions that realize this goal. The breaking down of the goal of employability into composite strategic objectives helps to allow the assignment of appropriate actions to the appropriate units within the institution rather than treating the topic as a one-indicator construct. Typically the largest operational relevance rests at the curriculum and career services whereby two of the institutions have dedicated positions in relation to corporate relations. None of the institutions have a function in place that addresses employability specifically but rather identify the responsibility dependent on the tasks that need to be done. Not having a dedicated function leads to difficulties in identifying or articulating a clear strategic approach. In order for employability to remain a topic on the calendar, it requires some sense of formalized articulation of its development process and the aspired outcome, where in contrast, in absence of this, it is considered as a result that will happen organically. In terms of engagement with external parties, in particular industry but also governmental agencies or third party accreditation agencies, the point of employability development is often raised as the differentiator and an indicator of fitness for purpose. Two of the three institutions have dedicated budgets towards the development of employability by means of facilities, systems support, training or events. It is clear however that employability is not the only topic on the institutional agenda, those institutions that have managed to develop employability development as a core competency (in our case HEI3 and to some extent HEI1) show

evidence of how employability can be a very effective overarching goal to drive

various other functions and leverage their expertise.

Based on interpretation of the findings from the case studies,

the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 19: Gradient Description 'Overall Strategy' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have an articulated place in the strategy of the organization. It is not considered as a formal objective or purpose of HE. There is no specific set of processes, or policies in place towards	Employability is recognized as an important point of attention by the institution. It is part of the articulated aspirations of the institution, but lacks strategic implementation. Employability limited to be part of the overarching organizational	Employability is a formal part of the strategic plan. Employability is actively considered as a competitive advantage for the HEI. The goal is broken down into some sense of sub goals for relevant organizational	The institution places employability high on the strategic agenda and considers its realization a priority. Resources are allocated directly in support of the realization of this goal at institutional and activity specific level.	Employability is the top priority towards which every other activity is geared towards in terms of planning, organization, implementation and evaluation.

(Continued)

Table 19 (Continued) : Gradient Description 'Overall Strategy' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
place towards this goal.	organizational objectives.	organizational activities. The organization has a function that carries the formal accountability against the goal.	The organization uses results around employability actively as a central topic of conversation to all stakeholders. The institution has actively assigned dedicated resources in the organization to address employability at various levels of the organization and in various activities.	

1.2.1.3. HR Strategy

Since HE is a highly knowledge intensive industry, the HR strategy is a fundamental cog in the process. HR practices that support employability range from recruitment through induction of new joiners, performance appraisals and further to professional development. All three institutions have a clear HR strategy whereby they try to attract faculty and administrative staff that are qualified for their jobs. HEI1 hires faculty on the basis of academic qualifications in their field and industry experience in order to build the institutional capacity around delivering a

curriculum that is meaningful and contextualized for employability. The faculty of HEI2 and HEI3 is developed from a more hybrid perspective whereby the full time faculty consists of domain experts and industry expertise is included in transformation process through the use of adjunct faculty. In terms of career support activities, only one of the cases presented a team of people qualified in career counseling, yet the equivalent units in the other institutions felt such support to be required in order to be able to operate beyond personal experience, a sense of enthusiasm for the job or a professional background in recruiting. The field of career counseling in particular was raised as one that carried interest and purpose towards qualification of their teams. The inclusion of employability in its orientation programme for new joiners is arguably an effective mechanism in order to illuminate the institutional perspective on the nature of the goal and its approach. Professional development activities that are particularly aimed at employability can be run in-house in case the expertise is available, through sourcing appropriate outside providers or by means of engagements with externally run opportunities. Even though the value of professional development is very much recognized and required to develop a good address towards employability, it seems to have a rather low priority on the HR agenda. HEI1 has internal workshops and trainings in addition to ad hoc invitations by outsiders to deliver professional development activities around employability. Both HEI2 and HEI3 seem to assume that the application of sound fundamental principles of the professions (core or support activities in a HEI) is sufficient towards the development of an appropriate transformation process. The appropriate support for professional development for employability and its consideration in performance appraisals seems to instill a sense of importance of employability in the organizational members. Faculty and career staff that have well rounded understanding of all aspects of employability with particular

expertise in relation to their field can be argued to prove highly appropriate in making sure the core and support services are effectively attuned to one another.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 20: Gradient Description 'HR Strategy' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Recruitment strategy of academic field specialists in line with the programmes and supporting opportunities for professional	HR structures that support the organization of support activities with recruitment of generally relevant professional profiles for support activities. Some sense	Employability forms a formal part of the orientation for all relevant activities. Recruitment happens on the basis of profiles that are suitable for the realization of employability through a learning offering that aligns with industry and through support	The institution carefully recruits profiles that are suitable for the employability transformation it offers its learners. Job requirements include where relevant formal considerations around employability related factors (e.g. industry experience or professional qualifications). Performance evaluation includes employability related KPI's for some of the functions. Professional development that enhances the	Professional development activities around currency with the latest trends in HE and employability are institutionalized. Personnel have on average a very well rounded profile that includes all facets of the transformation.

(Continued)

Table 20 (Continued) : Gradient Description 'HR Strategy' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
development to maintain currency in their field.	of inclusion of employability in the orientation programme of new staff, mostly geared towards academic faculty.	activities that are conducive to employability. Professional development around employability is encouraged and supported.	ability of the institution to address employability is prioritized.	process with accents in expertise around the specific activity they engage with.

1.2.1.4. Organizational Culture

For employability to be truly part of the institutional ·raison d·être·, it requires evidence of the notion to be part of the fabric of the organization or in other words, its organizational culture. This starts by means of including employability in the formal and informal communication with internal and but equally external stakeholders. All three cases suggest that the inclusion of employability in the rhetoric with external stakeholders, such as employers or prospective students, is highly beneficial towards developing meaningful discourse. Internally, the placement of employability as a topic for systematic and consistent consideration and orchestration of such throughout the full breath of activities is highly complex. By

means of clear and consistent address of employability at senior level, this notion

needs to permeate through the organization with the objective to generate buy-in from

all parties concerned around employability as part of HE fit for purpose and active

consideration of the topic when executing core and support activities. Each of the

cases suggests that driving the employability agenda must come from managerial

positions whereby either directors of operational departments or deans of academic

departments need champion the topic in order for it to remain actively present in the

minds of the organizational members. The manner in which the topic enjoys

consideration depends on the type of organizational unit considered and their direct or

more superfluous link with employability. Support services around career, work

integrated learning, job placement or corporate relations, due to the nature of its

operation, are expected to be highly engaged with employability. Each of the three

cases suggests that the engagement of junior learners with such activities is

challenging however in all three cases equally a trend was observed that engagement

increases as learners become more senior. Two of the three institutions include

engagement with support services within the formal curriculum, which creates

opportunity for employability to become better understood by learners but equally a

more engaging topic for faculty members. The latter, as two out of three cases studies

suggest, seem to be prone to challenges in terms of embracing employability in their

line of work as this would include not only to have conversations around the topic, but

more importantly consistently and meaningfully including the topic in learning

activities whereby not only field specific, but also more generic and career

competencies are to be addressed. Institutional units such as quality control,

accreditation, international affairs or other supporting units are less prone to actively

consider employability. For units of the former two types, it is however identified in two of the three case studies, that there is need for high consideration of employability if the institution is serious about realizing a commitment to this goal. This is coupled with a spirit of continuous improvement, which can be easily synced with the pursuit or maintenance of accreditations.

It is fair to say that not every department will interface with the development of employability with a similar intensity, yet every department should be vigilant to capitalize on opportunities and be aware of what the rest of the organization is doing. Information should flow effectively through the organization both horizontally and vertically as part of a continuous improvement exercise through sharing best practices, data and information about the target destination, the wider context and internal performance of the system in place.

Each of the cases, in their own way, presents some level of consideration of the physical environment towards the development of employability, ranging from the set-up of classrooms, the place of the career center on campus, the use of simulation spaces, an on campus incubator, opportunities to engage with learners from other schools, a virtual space dedicated to employability, the running of recruitment campaigns and events, etc. The inclusion of the physical space as a complementary part to the transformation process will only be effective if indeed the references that the physical spaces makes will in fact be drawn upon by the learners, the faculty or the supporting staff.

Employability has an enormous opportunity to be a topic of conversation that brings various departments around the table with a shared goal, allowing the design of a composite type structured approach whereby each

department contributes based on its expertise and complements the others towards a
fully fledged institutional approach.

Based on interpretation of the findings from the case studies,
the researcher's general understanding of the context through exhaustive literature
review and the intuitively indicative nature of the maturity levels as described above,
the following gradient description was generated for this criterion (Table):

Table 21: Gradient Description 'Organizational Culture' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
The members of the organization do not consider employability as a purpose of HE beyond it being incidental. Employability of learners and the effect of the	Employability is part of the formal rhetoric of the organization but does not permeate through the activities the organization undertakes. The construct is at best cosmetically	Employability is considered as the purpose of the organization by most of its members and recognized as a potential point of differentiation in the HE landscape. It is actively	Employability is recognized by all organizational members as part of purposeful HE and is embraced at organizational, departmental and individual level. Where relevant, all members of the organization consider the goal of employability	Everything the organization does is first and foremost directed towards developing employability of its learners or towards enhancing the organizational ability to

(Continued)

Table 21(Continued): Gradient Description 'Organizational Culture' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
educational offering is not part of the formal or informal discourse at any level within the	present in the campus environment and is topic of conversation in some isolated instances. The goal of	championed at various levels but in reality is given most attention in curricular activities. It is a topic of	consistently in their activities. As part of the formal and informal conversations within and between departments, it is a common ground	tackle the matter. Knowledge and information around the topic continuously flows through the
organization. Employability supporting projects are not actively championed, nor is employability used in the institutional rhetoric	employability, even though articulated at institutional level does not find root in the day to day operations of the organization. Employability is a merely a recurring theme in the institutional rhetoric for both	formal conversation around the core activities of the organization and at strategic level but still lacks organization wide buy-in. Employability is the central conversation point with	that forges meaningful and effective information exchange and collaboration between different departments. Learners are highly aware of and engaged in the employability context. The physical	organization through formal informal communication channels. It is evident that the whole organizational activity gravitates towards the construct driven by a strong sense of.

Table 21(Continued): Gradient Description 'Organizational Culture' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
	internal and external communication.	external stakeholders. The physical environment shows signs of employability-conducive elements.	environment is purposefully designed to express the value of employability. Employability systematically resonates in institutional rhetoric, decor, activities and collaborations as the number one priority and goal for the HEI.	continuous improvement and search for excellence.

1.2.1.5. Decision Making

Each of the cases evidences that decision making driven by employability is mostly informed by end of process data and is in most cases restricted to evaluating the overall process in a rather qualitative manner. Quantitative data is typically used for reporting as compared to analysis and decision making, at least when it comes to employability related elements. Each relevant department could

be argued to have some sense of set of evaluative criteria that reflect employability which can drive decision making, however actual decisions are often not driven by quantitative process data, but rather qualitative information as will be more evident from the remainder of the discussion on the cases.

The case of HEI1 highlights the practice of Objectives and Key Results (OKR) as part of its strategic process for direction and decision making, whereby employability objectives set at the senior level of the organization are expected to be addressed by means of a cascading mechanism of proposed contributions towards the superposed objective with a periodic evaluation mechanism for accountability and adjustment. This method in conjunction with a spirit of continuous improvement and the prioritization of employability would allow for the development of formalized KPIs for each department in context of the transformation process and ultimately be a driver for all decision making where relevant.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 22 : Gradient Description 'Decision Making' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Decision making does not consider employability as a qualifying factor for planning, resource allocation or evaluation practice.	Decision making recognizes employability as a qualifying factor for planning, resource allocation and evaluation practice but lacks appropriate mechanisms to do so. Graduate employability is a formalized KPI at institutional level.	Employability is used as a formal indicator in the evaluation of organizational performance both at process and at output level by means of basic processes.	Leadership puts employability central to its activities by considering it as an important evaluative factor for decision making. Projects are evaluated and given support on the basis of their contribution to employability. Evaluation of organizational performance on employability is formalized in department specific KPI's with clear and department specific processes in place.	The goal of employability as the highest institutional priority drives all decision making in the organization.

1.2.1.6. Institutional Practice

The baseline practice in terms of how employability is being linked with the transformation process is by means of destination data. This is evidenced by all three case studies whereby some of the data is collected by the institutions and some is drawn from reports generated by externals (public or private sector). The case of HEI2 and particularly the case of HEI3 highlight the importance of having externals involved in this, not only towards having a more objective perspective, but also for matters of practicality. The case of HEI1 suggests the need for data from external bodies, yet the institution faces the issue of virtually no data collection being administered at a national or regional level that provides the information it is looking for at the right level of granularity.

Each of the institutions highlights the use of a set of parameters or framework that represents institutional practice to tackle employability. This mostly concerns the academic side of things in terms of T&L practice and curriculum design or development leading to some standardization of the approach (e.g. compulsory internships, authentic learning experiences, student centered T&L approach, mandatory engagement with career services). This is only possible if senior people in the institution (management or deans) are drawing good practice into the institution and suggest this to their concerned units, which was evident from the case of HEI1. Once some form of standardization has been attained, the oversight and appropriate maintenance of this standardization rests with a designated unit or position. At HEI1 this has translated itself into programme managers and heads of school reporting on employability attainment as part of programme review cycles, deans reporting on general programme design and destination data, Quality units

reporting on accreditation levels and support services reporting on their operational practice when required. Each of the cases suggests an evolving nature of its institutional practice whereby HEI1 has mostly focused on the development of its T&L approach in conjunction with its industry relations. HEI2 has evolved its programme by means of introducing its collaborative learning track and a stronger focus on the English language. HEI3 has reviewed the place of professional identity and soft skills in its transformation process. Aside from the evolving nature of the transformation process by means of exploring, trying and standardizing good practice, each of the cases also highlights the contextual nature of employability and therefore the danger of too much standardization leading to constriction and inapplicability of certain approaches. From the case of HEI1 it is clear that the sharing of good practice in a formal and systematic manner helps to disseminate effective methods and strengthens the transformation process as a whole. Institutional research on employability seems to be lacking in all three cases, but at the same time is regularly highlighted as a recognized gap in terms of understanding and improving the employability address. HEI1 has mapped its curricular outcome against its set of employability competencies and has recently included an employability section in its annual programme review cycle, HEI3 has some data around its work integrated learning and career services and HEI2 has some data around engagement with industry for its career events, yet each of these are at the moment not yet used to drive decisions around change or standardization. The use of internal or external communities of practice (CoP) has proven to be useful in the case of HEI3 for accreditation and has only recently been established at HEI1 for PBL. This suggests that a CoP structure for employability address either at institutional or trans-

institutional level could benefit the development of institutional practice. HEI1 is currently engaged in collaboration with the HEA of the UK for a professional development project, which may open opportunity for exchanging information around employability. HEI1 has furthermore been found to be adhering to international good practice in terms of its T&L approach for employability.

The contextual nature of each discipline, but perhaps more importantly the socio-cultural environment of the learners and contextual nature of the labour market in which the graduates are likely to require gradual contextualization of good practice. This needs to be considered in an environment of continuous improvement and innovation in order to make the transformation process highly responsive to its external environment (i.e. primarily the labour market of today and tomorrow). The profiling of institutional good practice can be expected to be positively supported by means of regular featuring in scholarly works on the relevant fields of practice.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 23: Gradient Description 'Institutional Practice' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
No benchmarks are used other than destination data. Employability is not seen as a critical factor of distinction.	Management suggests actions around employability to faculty and staff through investigation and evaluation of best practices and developing dialogue towards implementation at appropriate levels.	A standardized approach to employability is endorsed by the institution and benchmarked against good/best practice. Institutional research on employability is formalized through a designated unit and engagement by faculty is incentivized. Association with professional authorities in the various fields of study is expedited.	Good practice is the norm and best practice is celebrated throughout the organization. Institutional research reports on current practices at both programme and institutional level. There is an institutional community of practice that exchanges ideas building a strong body of knowledge around how to tackle employability.	The institution has contextualized best practice and systematically fine-tunes its approach trough continuous incremental innovation of its process. Through close and effective collaboration with all its stakeholders the institution is highly agile and consistently features in the scholarly environment as highly effective and exemplary.

1.2.1.7. Dimensional Statement on Leadership

Leadership around the development, deployment and maintenance (i.e. continuous improvement) of an effective transformation process for employability requires institutional commitment and valuation of employability as a strategic factor. This requires the realization of an institutional culture that is conducive to employability supported by effective structures that include external organizations where possible and relevant. Each of the components of the transformation process must be carefully designed, resourced and developed in order to realize an effective and appropriately balanced approach to the end goal. Through continuous institutional research around the effectiveness of the transformation process that institution will be able to identify appropriate good practice and contribute to the body of knowledge in the public domain. Strategic direction, decision making and subsequent operational activities must inherently consider and be geared towards the realization of employability resulting in the construct truly becoming part of the organizational fabric.

Based on interpretation of the findings from the case studies, all gradient statements per criterion, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for 'Leadership' (Table):

Table 24 : Gradient Description 'Leadership' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have a formally articulated strategic place in the core or supporting activities of the HEI. It is not part of the organizational culture and employability is not seen as a potential competitive advantage.	Employability is recognized as a potential competitive advantage but the institution lacks implementation of strategic discourse. Relevant organizational structures and processes exist but are inactive or ineffective. The organizational culture does not capture the concept of employability	Employability is a formal part of the strategic plan to strengthen the institution's competitiveness and its fit for purpose. The organizational culture reflects commitment and enthusiasm around employability development in pockets of curricular activities, but lacks organization wide buy in. The organization shows commitment towards	Employability is viewed through a holistic lens and considered a strategic priority. It is institutionally contextualized through the development of action plans for each relevant department whereby decision making is highly driven by cascading employability objectives. Employability is truly part of the organizational culture and a	Every organizational activity gravitates towards employability development which is considered as the primary purpose of the HEI. The organization has staffed its core and primary upporting activities around employability development with people who are well experienced in realizing employability through HE, resulting in employability eing woven into the

(Continued)

Table 24 (Continued) : Gradient Description 'Leadership' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
	beyond semantic rhetoric. Good practice around employability is suggested but experiences difficulty in terms of uptake or adoption at institutional level.	employability as a formal priority through endorsing an institutional approach to employability based on best practice, designated structures and relevant associations with external entities.	central tenet in many activities involving internal and external stakeholders. Good practice in context of the construct is considered the norm and best practice is institutionally celebrated.	organizational fabric. The institution drives the cutting edge around employability development through incremental and radical innovation.

1.2.2. Curriculum and its Criteria

Evaluation of the case studies for the dimension Curriculum, suggests five criteria for more detailed evaluation: Teaching and Learning, Design and Course Sequence, Curriculum Development, Faculty and Outcomes. Table outlines a concise operationalizing description of each criterion which will be elaborated on below in the discussion.

Table 25 ： Curriculum Criteria EDAMMv1

	Criteria	Description
Curriculum	T&L	T&L practice in terms of its focus on employability
	Design & Course Sequence	extent to which curriculum design considers employability.
	Curriculum Development	extent to which curriculum development considers employability
	Faculty	the constitution of the faculty in relation to its conduciveness to employability of the learners.
	Outcomes	alignment of learning outcomes with employability factors.

1.2.2.1. Teaching and Learning

Each of the cases illuminated a deliberate T&L approach and a sense of distinction between the manner in which the curriculum has been delivered and the manner in which it is being assessed.HEI1 has a more carefully articulated T&L approach in comparison to HEI2 and HEI3, however each of the institutions has given careful thought around the manner in which they believe curricular activities can be appropriately addressed, which is not surprising since it is considered the core activity of a HEI.

Delivery

Each of the three case studies evidences that the time of tutor-centered approaches to delivery that focuses on the transfer of field specific

knowledge is a thing of the past. Each of the cases present a consensus around the adoption of a student centered approach to be fundamental to the deployment of a T&L strategy that is conducive to employability and that this allows for a better address of the requirements relevant to the professional environment of the graduates' destination. HEI1 and HEI3 strongly advocated for the placement of the onus of learning on the individual whereby the teacher takes a facilitating role in the learning process compared to HEI2 where the student centered nature is perhaps articulated as more of an aspiration at the moment rather than a true reality. The case of HEI1 and HEI2 both identified the challenge to at times first undo some of the inappropriate learning practices from past educational experiences before the learner will truly take responsibility for his/her own learning. All three cases, but in particular the cases of HEI1 and HEI2, identify the fundamental challenge to translate an institutionally chosen T&L direction into a truly institution-wide deployment and adherence to its principles. There is need for consistent commitment and appropriate capability in the institution if more progressive or innovative types of T&L want to be rolled out throughout the curriculum. The case of HEI3 also points at the issue of resistance of faculty. The perspective of a student-centered learning approach that is engaged with from a truly developmental point of view is key, which requires not only the rhetoric to be present, but also attention to be given in the curricular documentation to transcend the mere espoused nature of developing young professionals. Each of the cases also confirms the value of focus on application of knowledge compared to its mere acquisition. Learning experiences that are experiential and work integrated are championed whereby it was clear that high authenticity and collaborative learning experiences are considered as highly conducive. HEI1 and HEI3 also identified the

value of the inclusion of reflection in the learning experience covering areas such as behavior, strengths and weaknesses but also career identity. In terms of involving external parties into the delivery of the programme, the cases found consensus around the inclusion of industry partners as much as possible, yet in terms of collaborating effectively with the career services, the reality showed that HEI3 had the highest form of integration, HEI2 presented some form of integration with aspiration to do more, yet HEI1 did not see the place of career services as part of the curriculum as a priority. That being said, the latter case did however recognize the lack of career identity address in its curriculum. Once an effective T&L strategy that addresses employability in a holistic manner is the norm, the institution can continuously fine-tune its approach in order to be responsive to its context and become benchmark for other institutions. The case of HEI1 has indicated that for its region, the teaching and learning approach is not only highly progressive, but equally generating very satisfactory results in terms of producing knowledgeable graduates but also tick various other boxes in relation to personal attributes in the realm of work-readiness.

Assessment

All three institutions applied a grade based assessment system, even though the case of HEI1 indicated some parties within the institution favouring a competence based assessment system. The methods of assessment were in all three cases suggested to be dependent on the course in question, however HEI3 and HEI1 in particular contended the value of authentic project based assessments to be highly valuable. Various assessment methods were found ranging from the more traditional pen and paper to oral defenses and presentations pitching solutions to problems. Consensus was however found over the fact that rote learning and reproduction of

pure theory only serves as a foundation or is used as a safeguard to prepare learners for being successful in more complex assessments around knowledge application. The concept of peer-review was only identified in HEI1 as a practice that makes learners more aware and more mindful of their and other people's behavior in a work related context.

The mapping of learning outcomes against employability was presented by both HEI1 and HEI3 as evidence that assessment captures the construct, however it was also argued that at the beginning of the programme the focus is much more on 'knowing' whereby near the end of the programme the type of Intended Learning Outcomes (ILO's) cover much more the notion of 'being' a professional. The practice of assessing output or evidence in an authentic context was argued far more meaningful than traditional paper based assessments, but at the same time far more complex and resource intensive. Furthermore, the inclusion of (industry) externals into the assessment in order to align the assessment standard to industry standard or general expectations of a labour market were consistently showcased by all three institutions as the strongest evidences of direct assessment of employability. The case of HEI1 highlighted a type of formal assessment statement for employability that is awarded by industry in the final year project. It was however rather limitedly counted in the overall grading of the learner for administrative and socio-cultural reasons. Both HEI1 and HEI3 argued that authenticity of assessment is highly indicative of the employability of an individual in terms of performance on the job. The assessment of career competencies was in no institution truly addressed beyond earning credits by means of participation in career related workshops or events.

Based on interpretation of the findings from the case studies,
the researcher's general understanding of the context through exhaustive literature
review and the intuitively indicative nature of the maturity levels as described above,
the following gradient description was generated for this criterion (Table):

Table 26 : Gradient Description 'Teaching and Learning' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Traditional tutor centered T&L approach with a focus on transferring field specific theoretical knowledge. Assessment is mostly focused on regurgitation of theory	T&L approach is articulated to be student centered in nature inclusive of some broad practices that are conducive to employability. T&L practice that focuses on KSAO's is promoted yet only limitedly practiced	T&L approach is clearly outlined in relation to the development of employability by committing to student centered, developmental T&L practices that are conducive to employability. Employability development is given specific attention in course	T&L practice is highly informed by employability-conducive principles of authenticity, student centeredness, collaborative learning, reflection and activity orientation. Such principles are consistently and systematically applied with contextual	T&L practice is highly conducive to employability and operates at the cutting edge of pedagogy and andragogy. The practice is often referred to as a benchmark for national and international

(Continued)

Table 26 (Continued) : Gradient Description 'Teaching and Learning' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
through traditional assessment processes. Assessment is done by a theory specialist.	across all its facets due to a consistent lack organizational capability and commitment. T&L practice is not formally informed by employability-conducive methods or techniques. Employability can be argued to indirectly form part of the assessment criteria in a very general sense at best.	documentation and guides the faculty's action as learning facilitators. Curriculum delivery is focused on application of knowledge and includes practices of experiential and work integrated learning. Throughout the programme assessment consistently makes direct	consideration and form the fundamental T&L DNA of the institution. The delivery is transformational and integrates internal and externally relevant partners in terms of employability on a regular basis (e.g. employers, career center, industry relations, ...) T&L practice includes a sense of career guidance as part of the developmental	practice in HE as it is informed by and continuously refined for the changing nature of the learners and its context. The results of the total battery of assessments are highly indicative of the employability of the evaluated learner.

(Continued)

Table 26 (Continued) : Gradient Description 'Teaching and Learning' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
	This is typically linked to an internship requirement for graduation. Other course assessment is argued to address employability through the mapping of the learning outcomes with little specific employability measurement in	and indirect links to employability elements in alignment with the institutional definition and framework of employability. Assessment is generally based on the evaluation of evidenced outputs of students in context of their field of study. The level of	approach of early professionals. Assessments are highly authentic throughout the program in alignment with the reality of the future field of employment. Industry expectations form a strong part of the assessment of students' work, inclusive of a formal statement around general	Assessment practice is constantly refined and fine-tuned against the changing requirements of the labour market and future trends of economic and societal development.

(Continued)

Table 26 (Continued): Gradient Description 'Teaching and Learning' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
	place and is mainly focused on evidencing 'knowing' theory.	assessment authenticity generally increases as the student progresses through the program.	employability at the end of the programme. Assessment involves a variety of stakeholders including peers.	

1.2.2.2.Design and Course sequence

In all three cases the programme design consists of multi-year programmes with a general and field specific sequence typically under the form of core courses and major specific courses. The courses are credit bearing and programmes include topics of study that are not field specific either in a preparatory/ supportingcapacity such as language or mathematics or as an opportunity for the learners to explore other fields of study via electives as a complement to their chosen track. HEI3 is the only institution that actively includes trans-disciplinary approaches whereas HEI1 and HEI2aspire the practice but have noted various challenges to it. Each of the institutions has a governing curriculum unit but both HEI2 and HEI3 highly value the notion of academic freedom, in contrast to HEI1 where curriculum and course design is far more regulated. Curriculum design in each of the three institutions advocates for the application of knowledge rather than being merely theory focused. The participants in curriculum design are typically members of the

curriculum unit, full time academic faculty and some carefully selected externals through steering committees or advisory boards. This is common practice among each of the institutions and is a highly valued element in the delivery that the curriculum is aligned with industry. The inclusion of the economic environment and the jobs for the future is less actively considered, however the curriculum design policy of HEI1 stipulates the requirement of a feasibility study of a programme inclusive of outlining of career paths for graduates before a programme can be formally approved. The introduction of an internship to a programme enhances the authenticity of the learning experience yet should not be considered as the magic turning point for the learner after a period of 'unauthentic' learning. The cases of HEI1 and HEI3 evidence the value of having authenticity progressively introduced in the curriculum whereby the labour market requirements are very much a benchmark of particular outcomes and content with an overall focus on competencies rather than mere theoretical knowledge. Review of programmes was reported to consider employability by means of industry consultation in a periodic manner, as a formal indicator in student satisfaction surveys and as a formal indicator in the annual programme review cycle. Each of the three case studies further recognizes the value of providing its learners with exposure to international practices of the field and the workplace be it through an international faculty body, aligning its curriculum with international professional associations or by means of a compulsory international component of its curriculum (internship or summer school). Ultimately, the high inclusion of external partners who are directly related to the recruitment of young graduates and information that gives a meaningful outlook on future economic and societal trends are suggested to allow the

design of a curriculum that is highly responsive towards the current (and future) trends in the 21st Century.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 27 : Gradient Description 'Design and Course Sequence' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum design is done in a traditional way by means of a selection of credit bearing courses that comprise in majority of theoretical and fundamental	Curriculum design follows a traditional approach by means of a selected sequence of credit bearing courses inclusive of an internship. The bulk of the courses are set up to include application of knowledge	The institutional approach to curriculum design considers employability as a principal guide for consideration of T&L approach, types of courses, course	Employability is the central tenet around which the curriculum is being designed as a result of systematic consultation with a variety of internal and external stakeholders. Institutionally standardized	The curriculum is built around the presently emerging and future labour market trends through a course structure that is highly responsive to change and enormously impactful around preparing the learner to

(Continued)

Table 27 (Continued) : Gradient Description 'Design and Course Sequence'

EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
field specific content sequenced according to increasing field specialty. Design is governed by an institutional	through mainly low level authenticity. Programme learning outcomes are overall related to general abilities within the field of study. Career pathways are generally identified. Curriculum design	sequencing and credit allocation. Curriculum design is guided by requirements of the labour market, is competency	approaches are of the nature of internships, work integrated and problem based learning, apprenticeships, experiential development etc. Curriculum evaluation and	become a value adding individual in society. Learners are exposed to both leading trends and high-end niche practice from around the world. The curriculum is co-designed with a variety of relevant stakeholders such

(Continued)

Table 27 (Continued) : Gradient Description 'Design and Course Sequence'

EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
curriculum unit in collaboration with field specific academics. Changes in course or programme design do not formally consider employability related aspects.	is governed by a institutional curriculum unit and realized in collaboration with primarily field specific academic faculty but inclusive of some consideration of environmental information or external stakeholders in an employability context. Changes in course or programme design consider employability related aspects in a very general and broad manner at best.	oriented and aims for progressively higher levels of authenticity throughout the programme. Review of the curriculum includes employability as a primary qualifying factor from a faculty perspective and to some extent from a student perspective.	review includes internal and external stakeholders' input and requires formal industry endorsement of some kind before going ahead. Institution wide, developmental activities offered by support services are included as elective or mandatory credit bearing components of the programme where appropriate.	as leading employers, high potential startups, recruitment agencies, social entrepreneurs, NGO's etc. Reviews of programmes happens continuously through widening the consultation with more partners towards building a programme design that is agile, responsive and proactive to the dynamic context of economic and societal trends.

1.2.2.3. Curriculum Development

Even though course content, related delivery methods and course assessment are typically decided upon by academics according to traditional academic principles and standard quality mechanisms for review, each of the cases suggest more intricate notions around this criterion. Employability is more considered as an overall outcome at the end of the programme rather than given close attention at the end of its programme components (courses or units). The mere linking and mapping of courses and their outcomes to field specific KSAO's does not necessarily provide an explicit enough address to employability since such approach is prone to regress towards focusing on theoretical knowledge acquisition with an assumption that other competencies will be acquired through osmosis. When employability is considered as a personal transformation towards graduate destination (now and in the future) and destination level requirements identified through consultation with industry, its impact on course development is likely to be more effective. Curriculum development and review then depends on the place of the course in the transformation process whereby lower level courses are more likely to focus on theory but higher level courses address more complex problem solving situations by means of facilitating access to more authentic learning environments. The case of HEI3 exemplifies the introduction of not only industry practice but furthermore notions around career and professional identity in courses throughout the curriculum. Each course attempts to combines workplace related competencies and career competencies by means of a scaffolding approach to include generic, field specific and career competencies in the courses. HEI3 furthermore evidences high value in relevant trans-disciplinary considerations for course development and the inclusion of the career and

internship center in the review process of courses. Further progression of curriculum development to address employability would include not only considerations for the workplace of today, but also future trends of socio-economic nature, whereby the vast majority of courses would address generic, field specific and career competencies alongside fostering a natural disposition of life-long learning. Each course would then be developed and reviewed with high consideration for its place in the transformation process and be responsive to not only employability contextual factors, but also changes in other courses of the programme.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 28: Gradient Description 'Curriculum Development' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum Development is governed by field specific academic and teaching team	Course development attempts to address employability by mostly low level authentic approaches	Employability development is a guiding consideration for course development and re-development in	Course development is highly guided by industry practice and career requirements	Courses are developed with the future careers of the learners in mind and consist of content and learning environments that

(Continued)

Table 28 (Continued) : Gradient Description 'Curriculum Development' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
according to traditional academic principles of content density and traditional learning environments and methods. Review considers academic principles in compliance with academic	(e.g. case studies or guest speakers). Course documentation does not make consistent and explicit reference to employability related points of attention. Course review includes basic qualifying factors around	terms of content selection and materials and methods in support of delivery and assessment. This is strongly guided by graduate destination and entry level job requirements. Facilitating the access to an authentic learning	through consultation with internal and external stakeholders. The courses largely integrate work specific topics and applications as well as career notions in its content. The learner's development of relevant field specific,	prepare the learners for the current and future workplace, labour market, economy and society. Each course has a clear address towards career and lifelong learning alongside the field specific competencies and soft skills it is addressing. Each course has been carefully constructed with a

(Continued)

Table 28 (Continued): Gradient Description 'Curriculum Development' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
quality assurance mechanisms with little or no consideration for employability factors. Content is selected by teaching faculty.	employability by mapping course learning outcomes against employability in terms of required KSAO's but is mainly focused on field specific knowledge and some application thereof.	environment is the ultimate aim. Lower level courses recognize the importance of theoretical fundamentals and knowledge acquisition in context of the field of study, where higher level courses are increasingly complex and developed in a problem-solution context. Course development and review gives consideration to the course's place in the employability development process.	general and career related competencies in learners is addressed in the programme through a scaffolding approach. Course and curriculum development includes cross departmental projects where possible and appropriate. Course review includes consultation with support services for relevant components.	clear purpose in the larger transformation process the HEI has in place. Each course is continuously reviewed and informed by best contextualized best practices, data and expectations of the destinations of the graduates. Courses are developed as transformative learning experiences. Course review considers a large variety of external factors alongside alignment with internal adjustments that are made in other courses or programmes where relevant.

1.2.2.4.Faculty

Each of the cases exemplifies the notion that a faculty consisting of purely academically qualified individuals is not the most effective manner to address employability. HEI1's faculty consists of an international body of academically qualified individuals with international or local experience in their field of expertise inclusive of professional certifications. Alternatively, as is the practice of HEI2 and HEI3, institutions can also complement their full time academically focused faculty with part timers or adjuncts from industry. A trend evident from all cases is the deployment of more theoretical experts in the earlier years of the programme and a concentration of faculty (adjunct or fulltime) with industry experience in the years where learners deepen their all-round acumen in a specialized field. The challenge with adjunct faculty is to ensure their engagement in the transformation process as a whole. The challenge with full time faculty is the assurance that their industry acumen remains current. HEI1 and HEI3 evidence the engagement of faculty in research projects with industry but also the general interfacing with industry in the development of curriculum and authentic learning experiences as a good way to bridge such a gap. None of the institutions consider professional development to address career competencies of the learners as a requirement for its faculty. The case of HEI1 however, and perhaps due to a rather limited interaction with the support services around career, identifies a lack of address of career competencies in its curriculum due to missing capacity in the faculty to do so.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 29: Gradient Description 'Faculty' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Pure Academics	Some of the faculty has industry experience but the majority of the faculty consists of academics.	The faculty teaching at the higher level courses consists of individuals with overall relevant industry experience.	Faculty consists of a balance between academics that are active in industry (e.g. applied research or consulting) and contracted industry professionals. Faculty members teaching in majors are professionally certified in their field.	The faculty members are of a hybrid academic/industry nature with very strong business acumen and highly current with the state of the art in industry and professional practice and strong awareness of both local and global economic and societal environments. The faculty has received basic training in career counseling and career management.

1.2.2.5. Outcomes

All three cases confirm the necessity of a HEI to generate graduates that are attuned to the professional destination they aspire. Given the realities of the 21st Century in terms of economic and societal dynamism, this requires more than a mere theoretical specialist. The case of HEI1 explicitly outlines its graduate profiles around notions of knowing, being and doing and this is implicitly present in the cases of HEI2 and HEI3 as well. The alignment of the curriculum with industry can be expected to result in a graduate that has relevant theoretical expertise inclusive of the ability to apply this knowledge. To meaningfully align graduate profiles and subsequent course outcomes with the KSAO's relevant and appropriate to the targeted industry, the curricular activities require a substantial address of what professionals need to know, be able to do and how they are expected to be(have). This can be expected to result in graduates being highly in demand in the labour market and thereby strengthening the position of their HEI. Adhering to the holistic notion of employability, the added dimensions of career competencies and life-long learning would result in graduate profiles that combine constructive personal dispositions, industry specific acumen and meaningful industry experience upon graduation. In the case of HEI3 (in orchestration with institutional efforts beyond curriculum) this results in a graduate that is highly in demand and more often than not secures employment before graduation. Attention to personal disposition such as behavioural and attitudinal aspects in a professional context is also reported in the cases of HEI1 and HEI2 as highly significant in terms of how their graduates are being perceived by employers. A transformation process must aspire to produce well balanced young professionals with strong personal and professional identity.

Based on interpretation of the findings from the case studies,

the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 30: Gradient Description 'Outcomes' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Course and programme outcomes focus on theory. The profile of the graduate reflects a theoretical specialist in the field with little or no consideration of practical skill or ability to	Course and programme outcomes strongly reflect knowing but include some concepts of doing. Knowledge acquisition is given priority over knowledge application in most cases.	Graduate profiles are competency oriented and have explicit statements on employability in terms of required KSAO's in the field of study. Programme and course outcomes are focused on operating as	Even though Industry standards and expectations are prioritized in the development of graduate profiles there is a sense of societal values woven within the corporate context. The programme aims to transform learners into	The programme aims to produce well balanced, confident, focused and confident young professionals with strong field specific expertise, a variety of work related experience and a strong sense of personal and professional identity. The profile of the graduate

(Continued)

Table 30 (Continued) : Gradient Description 'Outcomes' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
apply knowledge.	The profile of the graduate reflects a theoretical specialist with some ability to apply the knowledge in low level authentic environments.	an entry level professional in the field with some wider organizational acumen. Outcomes generally cover field specific notions around knowing, doing and being.	young professionals through specific outcomes in relation to knowing, doing and being. The programme outputs graduates that are in high demand in their field but also prove to have a positive disposition towards lifelong learning and career management.	prioritizes personal dispositions around proactivity and lifelong learning alongside highly relevant industry specific and transferable competencies. Graduates are the first choice of employers and typically are offered meaningful positions prior to graduation. Track records of alumni evidence a considerable proportion of high achievers in professional and societal context.

1.2.2.6. Dimensional Statement on Curriculum

For a curriculum to address employability it needs to give consideration to its holistic nature rather than the past perception of field specific knowledge if it means to generate a graduate that is appropriately attuned to the aspired professional and societal environment of the 21st Century. T&L, Design and Development require methodic consideration of authenticity, collaboration, reflection and praxis orientation alongside content requirements that are informed by the external environment of the present and its future trends. An appropriately well rounded body of faculty members would allow for the infusion of professional expertise, workplace acumen and field specific theoretical expertise in the transformation process resulting in graduates that are not only theoretical specialists at a destination level standard, but furthermore are able to apply the knowledge and operate as a value adding young professional to the benefit of the organization they work for, their personal career progression and the society of which they are part.

Based on interpretation of the findings from the case studies, all gradient statements per criterion, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for 'Curriculum' (Table):

Table 31: Gradient Description 'Curriculum' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
A theory dense curriculum that is delivered and developed by pure academics in the field through tutor centered mechanisms that focus on theory acquisition. Program design and development does not	The curriculum is for its majority focused on theoretical knowledge with some application through low level authentic learning approaches linked to some general abilities in the field of study. The curriculum	The curriculum is student centered and focused on knowledge application. It is realized through learning experiences across a gradient of authenticity by faculty members with considerable industry experience teaching in the later part of the program. The programs are informed by	With employability as its central tenet, a wide variety of internal and external stakeholders are involved into the design, development and delivery of the curriculum that aspires to instill general, field specific and career competencies in its learners. The faculty involved in	The curriculum evidences best practice and effectiveness in terms of design, development and delivery for employability towards a highly effective approach of developing life-long learners. The learning environment is transformational and consistently produces well balanced individuals with a holistic set of competencies

Table 31(Continued): Gradient Description 'Curriculum' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
consider employability factors beyond theoretical knowledge.	is generally informed by the external environment and designed, delivered and controlled by academics with minor industry experience.	field specific labor market requirements resulting in curriculum that is oriented towards the development of field or industry specific competencies.	the development and delivery of the program has strong currency with industry practice.	relevant for the economic and societal realities of today and the future. The curriculum is continuously re-aligned with industry and delivered by a hybrid faculty of cutting edge practitioners/educators with a good sense of career guidance.

1.2.3. Support Services and its Criteria

When evaluating the case studies the dimension of Support Services breaks down into four criteria for more detailed evaluation: student engagement, organization and orchestration, staff and the extent to which this services form a bridge to the labour market. Table outlines a concise operationalizing description of each criterion which will be elaborated on below in the discussion.

Table 31: Support Services Criteria EDAMMv1

	Criteria	Description
Support Services	Student Engagement	the level and type of engagement of learners in support services
	Organization &Orchestration	institutional approach towards support services in terms of organizing, structure and integration with other activities
	Staff	the expertise of the staff involved
	Bridge to labour market	the ability of support services to be a conduit towards employment opportunities for graduates

1.2.3.1.Student Engagement

In all three case studies student engagement is one of the most notable challenges support services face. This is of course most relevant to support services that concern career development or internships since they are the only support services that directly interface with the learners. In order to build engagement of the learners the institution requires to go beyond the mere communication of employability information through traditional or digital channels. The dedicated online platforms that provide career and employability related information evidence in all three cases to not attract the attention of the student body as aspired. Equally, organized events typically enjoy more interest from senior learners compared to junior learners whereby institutions tend to prioritize their focus on the former. HEI2 and HEI3 both have opted to tackle the challenge of student engagement with career

support by means of including some activities as compulsory in the graduation requirements and by means of placing the responsibility of finding WIL opportunities (internship) with the learners through a systematic application process run by the career and internship center. Each of the cases also reported on the value of involving seniors in informing juniors around the importance of career and the services available, hinting to the use of a mentoring programme as valuable. HEI1 has an effective senior – junior learning support mechanism in place whereby such approach could be duplicated in a career context. The ultimate challenge is to arrive at a situation where learners actively engage with the support services on their own accord throughout their academic career. This would however require the provision of services that are perceived highly meaningful for the learners. The inclusion of graduates or seniors to operate as role models or mentors can be an avenue worth exploring since each of the cases suggests a strong impact of word of mouth between learners on their engagement with support services. The inclusion of alumni in the activities of career support is certainly effective.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 33: Gradient Description 'Student Engagement' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Engagement with/of learners is low.	Engagement with/of learners is mostly limited to communication about the services and some interaction with highly motivated and interested learners.	Engagement with students is prioritized, actively pursued and recorded. Engagement is more common among learners in specialization years or near graduation.	Engagement with students is high due to some form of compulsory interaction with the support services. There is some form of engagement that spans across the total learner body due to relevant services offered.	The majority of learners actively seeks out the services and respond highly positive. Senior learners support junior learners in the development of career competencies.

1.2.3.2. Organization and Orchestration

Support services in relation to employability all showed to follow a planned schedule of activities in all three cases, suggesting the notion that ad hoc activities are unlikely to yield return on investment or high involvement of internal or external stakeholders. The case of HEI1 does however show a level of isolation in which the Support Services operate with at best inconsistent engagement of stakeholders. The offering of a wide range of career oriented activities, as available

at HEI1 and HEI3, holds potential if they are formally, systematically but above all effectively communicated to internal and external stakeholders. HEI2, even though having a series of activities available, relies heavily on its faculty to promote the activities in class. HEI3 is likely the institution that is most effective in effectively organizing and orchestrating its support services whereby they are observed as very active by internal stakeholders, resulting in higher engagement. Advancement of the organization and orchestration of support services, as further evidenced by HEI3 and to some extent by HEI2, is the inclusion of support services into the realization of credit earnings. HEI1 and HEI3 also report on the effectiveness of a network of recent graduates but also alumni in order to develop meaningful support services such as events, workshops or counseling. From a perspective of employability as an institutional target, support services, particularly career services, can position themselves as pivotal to the organizational information flow likely resulting in higher engagement with internal and external stakeholders. The unit should aspire to being highly relevant to the current labour market through the provision of highly specialized support inclusive of career and employability profiling for all its learners. Such units hold unique places within the transformation process to support the development of a highly relevant curriculum and simultaneously position the institution strategically towards its stakeholders.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 34: Gradient Description 'Organization & Orchestration' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
The institution provides few and ad hoc activities around career support with little or no engagement of internal or external stakeholders.	Support services consists of a series of ad hoc activities in the realm of career support that happen in isolation from one another and from the rest of the institutional activities and departments. Engagement of internal and external stakeholders is not systematic and remains superficial.	There is a formal, planned calendar of support activities covering a range of employability related topics. Activities are formally and systematically communicated to internal and external stakeholders with overall reasonable awareness among internal stakeholders.	The support activities are delivered in orchestra with the curriculum delivery and sequence as complement to - or through active participation in T&L activities that relate to employability inclusive of consultative collaboration towards design and development.. Some of the support services activities are formally set as credit bearing options in the curriculum. Career services office further continues engaging	Support activities are highly aligned with and responsive to the current trends in the labour market. They advise on general and specialty career competencies and develop tailored career profiles for engaging learners. The units' involvement in the organizational knowledge flow around employability is

Table 34 (Continued) : Gradient Description 'Organization & Orchestration'

EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
career support with little or no engagement of internal or external stakeholders.	Communication around the activities is partially effective in terms of awareness of internal stakeholders.	Engagement with stakeholders is established practice in terms of information exchange but mostly superficial in terms of involvement.	with Alumni in a mutually beneficial relationship. Engagement with internal and external stakeholders is systematic and significant in terms of information exchange and involvement in the realization of the support activities. Support services unit forms part of the organizational information flow around employability.	highly significant particularly in terms of providing detailed, programme specific and highly meaningful inputs around the current and future labour market requirements.

1.2.3.3.Staff

Each of the cases suggests the value of having professionally qualified staff to provide career support services, yet none of the cases evidence the presence of such instead relying on people's experience in the field. The case of HEI1 does however indicate past availability of training and organizational support towards specific professional development in the area, however recognizes resource constraints with respect to continuous professional development. The case of HEI1and HEI3 also suggest that the staff is likely to identify their own professional development more effectively compared to a situation in which the institution would do this for them. Training or certification in career counseling seems to be a highly valued and strongly desired professional development activity for career support services to be able to advance the operations of support services to become more impactful.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 35 : Gradient Description 'Staff' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
few in number and mostly untrained in career counseling or career management skills	The head of the department has experience in the field, yet assigned staff has limited experience in career counseling.	Assigned staff has undergone formal training for career counseling and career management according to national or international standards. Professional development opportunities are available.	Assigned staff consists of qualified experts in the field of career counseling and career management. Professional development in the field is required, partially supported and forms part of the performance appraisal.	Assigned staff consists of experts in the field of career counseling and career management with a background in professional recruitment. Professional development is part of a systematic HR developmental strategy. Opportunities identified by the staff are supported by the organization. Staff operates as PD facilitators for other HEI's.

1.2.3.4. Bridge to the labour market

The support services around career present strong opportunity to be a pivotal component in the transformation process from entry level student to employable graduate. The case of HEI3 and to a certain extent the case of HEI2 strongly suggest support services to effectively build the bridge from academic development to employment by means of not only interfacing with industry to exchange information or facilitate employment related exchanges with the student body, but arguably more impactful through their involvement in the internship component within the curriculum. HEI3 is highly effective in placing its graduates in employment before graduation, whereby the support services of the career and internship center play a fundamentally important role resulting in meaningful and clearly targeted first or next employment. The case of HEI1 suggests its support services to be less effective in being such a conduit for learners. Even though internship and employment opportunities are offered the impact of its efforts seems to be rather limited. The cases of HEI1 and HEI3 both indicate career support services to be the right unit to report on the bottomline impact of the transformation process in the form of employment figures and labour market perceptions of their graduates. All three cases also indicate the value of support services around entrepreneurship to be formally pursued. The case of HEI3, with its incubator, presents a formally organized platform for entrepreneurs to explore opportunity and engage with like-minded individuals and towards effectively spinning off startups.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 36: Gradient Description 'Bridge to the Labour Market' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
no conducive role	in theory the bridge builder, but in practice the results are not very impactful.	Support activities are institution wide recognized and promoted as the conduit towards the labour market. This takes the form of job fairs, guest speakers, workshops and active alumni. There is limited reporting around placing current students or graduates in employment situations. There are pockets of formally supported specialty activities around entrepreneurship.	Support services effectively secure, communicate, deliver and report on placing graduates and current students in employment situations. Collaboration with industry relations is high under the form or meaningful exchanges of information and network building. There is an institutionally supported center to nurture entrepreneurship.	Support services operate as a secure conduit to employment through a strong network and highly effective mechanism to place current students in employment situations that eventually build towards full time employment in highly meaningful and desired companies and positions. The institution has a formal and effective mechanism in place to spin off startups.

1.2.3.5. Dimensional Statement on Support Services

Support services show to have a very pertinent role in the development of career competencies and employment upon graduation. The need for an institutionally structured approach to this is evident whereby the interaction with various internal and external stakeholders is imperative. The goal of student engagement requires the unit to be highly active and connected with the student body by means of effective communication mechanisms and provision of services that are perceived meaningful to the full body of junior and senior learners. Through the development of institutional expertise in the area and effective engagement with all stakeholders, the support services unit can play a highly conducive role in the transformation process for employability by means of institutionally internalizing the up to date industry practices around recruitment and career progression opportunities to result not only in developing the right career competencies, an enhanced professional network and meaningful chances for employment.

Based on interpretation of the findings from the case studies, all gradient statements per criterion, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for 'Support Services' (Table):

Table 37 : Gradient Description 'Support Services' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Support services are very scarce, understaffed, poorly communicated and typically limited to general and superficial ad hoc activities around careers. Engagement of internal or external stakeholders is low to non-existent and the services contribute at	Support services consist of a series of activities particularly oriented towards employment upon graduation. The activities are not systematically organized or institutionally orchestrated. Engagement of learners is overall limited and	The institution has a systematic, formally planned approach to a variety of activities supporting employability in place that is realized by a formally trained department. Involvement of external stakeholders (participation or information exchange) is	Support activities are governed by qualified experts in career services and treated as an integral part of the institutional transformation process for employability. Services are developed and delivered through high involvement of relevant internal and external	Support activities are highly aligned and responsive to the economic and societal realities and form part of the knowledge body of the organization

Table 37(Continued): Gradient Description 'Support Services' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
best only minimally to the development of employability.	the results of the efforts are not overly significant.	the norm and results in meaningful opportunities for learners to enhance their employability. Engagement of learners is most common among seniors.	stakeholders. Engagement of learners is high and the results around career management skills uptake, opportunities for experience and graduate employment are significant.	around developing employability in the learners. The staff is highly current with recruitment and talent management practices in industry. Engagement of learners is very high and includes co-creation of service value. The results are highly significant in terms of developing very impactful career management skills and facilitating the securing of highly meaningful employment opportunities.

1.2.4. Industry Relations and its Criteria

The exploration of how industry relations are being developed and maintained towards an effective address to employability can be broken down into three criteria: the approach, the form of the relation and the result of such effort for the HEI. Table outlines a concise operationalizing description of each criterion which will be elaborated on below in the discussion.

Table 38: Industry Relations Criteria EDAMMv1

	Criteria	Description
Industry Relations	Approach	the institutional mechanism(s) in place to develop and maintain industry relations
	Form of Relation	the nature of the relationship between the HEI and its industry partners
	Result / Benefit for the HEI	the benefits and results for the HEI that are the outcomes of the relationship with industry

1.2.4.1. Approach

All cases indicate the need for both personal networks and institutional structures in order to effectively build relations with industry. The case of HEI1 and HEI3 identifies the industry background of its faculty as a very valuable asset to develop corporate relations, yet this remains restricted to the development of authentic learning experiences. The need for a formal structure, as strongly evidenced by the case of HEI3 and in a more nascent form at HEI1, is clear if the institution

aims at exploring forms of collaboration with industry that go beyond design and development of learning in a curricular sense. The case of HEI1 illuminates the importance of sustained personal networks by organizational members considering the time it takes to set up a formal organizational structure to tackle industry relations in a wider sense. The use of departmental contact points (formally or informally assigned) is a practice that HEI1 uses, whereas HEI2and HEI3 rely on a more centralized corporate relations office that operates as the liaison between industry and the institution which includes career and internship support services, playing a very pivotal role in the link with the academic activities. The latter two institutions rely on the faculty and steering committees to forge the relationships rather than having a designated contact person per school. The cases of HEI1 and HEI2 identify the need for a more organized manner of maintaining the relationship with industry, where in contrast HEI3 seems to have attained a strong position whereby the large industry players have solidified relationships with the institution, leaving more time to target effort towards smaller firms and start-ups that are of interest. HEI3 does however indicate that in order to have a more organized approach to industry relations, a higher level systematization, beyond a CRM system, would certainly help.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 39: Gradient Description 'Approach' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal approach or structure to engage with industry.	The institution develops relationships with industry through each of the departments in a rather organic manner without a formal approach to institutional network building. Relationship building is ad hoc.	The institution has a formal department that is charged with the development of industry relations. Many meaningful and practical contacts are still developed through informal or personal networks of members outside the industry relations department.	The institution has a systematic approach to industry relations by means of departmental contact points that form an internal network that governs the industry relations of the organization. The network is governed by designated account managers and a relationship management system.	The institutional and personal networks of industry relations are intertwined and easily accessible to anyone in the institution through a highly sophisticated relationship management system that allows for the identification of desirable industry relationships on the basis of automated queries and historical interaction. At the same time it captures a sense of desired human capital profiles for each of the organizations.

1.2.4.2. Form of the relation

Each of the three cases identifies industry as their partner, which indicates a form of relationship that goes beyond the superficial or conversational exchanges which are typically more PR oriented than truly in search something more substantial and sustainable. The relationship with industry is highly developed in the case of HEI3 whereby the institution has managed to generate corporate relations across various areas that serve mutual benefit. HEI1 and HEI2, even though approaching the relation with a similar win-win aspiration, do not evidence the same level of variety whereby the collaboration is mostly one that helps the institution align with industry and the labour market and to develop authentic learning experiences. In the case HEI1 the industry partners are at times highly involved in the academic side of the transformation process as evidenced in the curriculum section above. HEI3 is highly advanced in forging various types of relationships and has clearly positioned itself as a partner of choice for certain industry players whereby both the institution and the companies find gain out of these partnerships. HEI3 furthermore identifies the importance of being in touch with industry since the economic and technological climate is highly guiding for the direction of the institution.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 40: Gradient Description 'Form of the Relation' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
no or very superficial, passive relationship around informing the HEI about the labour market (and is at best research oriented.)	The relationship is mainly conversational in nature around labour market realities with little significant information exchange. The relationship is largely of PR nature.	The relationship is one of partnerships for information exchange to align the approach of the HEI to the labour market requirements.	Effective, synergistic relationships between the HEI and industry The relationships have clearly identified goals which are reported on throughout the collaboration.	Highly mutually beneficial relationships between the HEI and industry spanning across a variety of areas is developed and sustained (e.g. information and knowledge exchange, financial or other support, operational and strategic collaboration, etc...) The HEI becomes the partner of choice for industry and its relation is seen by both as symbiotic.

1.2.4.3. Benefit for the HEI

Each of the three cases evidences benefits for the HEI that go beyond occasional PR opportunities. There is clear recognition that the true benefit of relations with the corporate world lies in the opportunity it creates to align its offering with the state of the art in industry, build and grow educational offerings that are

highly valued by industry and carefully target highly meaningful destinations for
graduates. The cases of HEI3 and HEI2 testify of the value that professional adjunct
faculty can bring to the curriculum and the wider learning experience but also show
the more organic emergence of talent scouting throughout the academic journey. The
inclusion of industry in support services is in each of the cases highly evident and
considered as fundamental to acting on the goal of addressing employability. All three
cases clearly identify the relation with industry to be highly beneficial by using labour
market intelligence to guide the offering of its programmes. HEI3 is surely the most
advanced in terms of having carved out a position of being an institution of choice as
per the consideration of the corporate world. Both HEI1 and HEI3 contend the ability
to be selective in terms of partnerships after having established a positive reputation
in the corporate world as an indication to be fit for purpose. Each of the three cases
evidences that partnerships with industry allow them to attain a competitive profile in
the HE landscape. In the cases of HEI1 and HEI2 the corporate relations even allow
the development of a differentiating attribute as a HEI in its respective local HE
landscapes.

Based on interpretation of the findings from the case studies,
the researcher's general understanding of the context through exhaustive literature
review and the intuitively indicative nature of the maturity levels as described above,
the following gradient description was generated for this criterion (Table):

Table 41: Gradient Description 'Benefits for the HEI' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
industry relationship is not valued as pertinent towards the goal of employability	The institution mainly capitalizes on the relationships through PR opportunities and superficially towards informing its rhetoric around aligning the value offering of the HEI with the labour market.	Industry provides input for the institutional definition of employability and further refinement of the construct at program level. Enthusiastic industry members get actively involved in supporting curriculum design, development (steering committees) and to a certain extent delivery and assessment (internships, WIL, etc.). Industry is engaged with support services.	Industry involvement in curriculum design & development (inclusive of review), T&L activities and support services is the norm. Detailed labour market intelligence informs strategic considerations for the HEI around programme offerings and support services.	Industry approaches the institution for privileged association and partnerships. The institution can choose its industry partners. The network of the institution offers very high leverage for the HEI towards securing inputs to further strengthen its value offering and towards producing quality outputs through its transformation process. The HEI's has developed a highly competitive profile in the HE landscape through the association with selected industry partners.

1.2.4.4. Dimensional Statement on Industry Relations

With clear evidence of the value of industry relations to the development of an effective employability transformation process, a HEI needs to actively build relationships with industry in pursuit of a series of insights in the context and the ability to offer learners a highly meaningful learning experience resulting in a network for employment but also to institutionally build sustainable partnerships for the future. Treating industry as partners rather than the demand side of graduates is key towards establishing relationships that are mutually beneficial. Partnerships grow in meaningfulness as the engagement and collaboration increases and thrive when synergies emerge and bear fruit. HEI-industry partnerships become strategic relationships for information and knowledge exchange whereby the HEI can position itself in the market in such that more industry players want to be associated with it. Partnerships with industry can prove to present high leverage towards improving and fine-tuning the transformation process, the potential destination for graduates and in effect the competitiveness of the HEI in its landscape by becoming the institution of choice for all its stakeholders.

Based on interpretation of the findings from the case studies, all gradient statements per criterion, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for 'Industry Relations' (Table):

Table 42: Gradient Description 'Industry Relations' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal or systematic mechanism to the development of Industry relationships because it is not valued as pertinent towards building employability of the graduates. Existing relationships are passive and superficial, providing few insights in the labor market.	Industry relations develop organically at departmental level rather than systematically. The relationships are mainly conversational in nature and serve primarily the institutional rhetoric and PR purposes. The connection with industry only limitedly impacts the approach of the HEI to the development of its overall value offering.	There is an institutional department for industry relations to support the departmental efforts. The relationship is developed as a partnership of information exchange to inform for a meaningful HE value offering with occasionally highly invasive collaboration.	The institution uses a basic relationship management system resulting in synergistic relationships with clear goals and deliverables. Industry is highly involved in strategic and operational aspects of curricular and support activities.	The institution uses a sophisticated knowledge exchange system to manage its industry relations in order to advance a sustained mutually beneficial relationship. Industry becomes the demanding party for collaboration and partnerships, resulting in a leveraged network towards securing support, the creation of employability-conducive opportunities and a highly competitive profile in the HE landscape.

1.2.5. Quality Measurement and its Criteria

The dimension Quality Measurement breaks down into four criteria: Data, Measurement Systems, Analysis and Reporting, and Standards and Accreditation. Table outlines a concise operationalizing description of each criterion which will be elaborated on below in the discussion.

Table 43: Quality Measurement Criteria EDAMMv1

	Criteria	Description
Quality Measurement	Data	the type of data on employability used
	Systems	the systems in place to obtain the data
	Analysis &Reporting	the institutional mechanism to generate and disseminate information around employability in the HE context
	Standard & Accreditation	the approach to using a quality standard for its transformation process

1.2.5.1. Data

Evaluation of each of the cases illuminates a variety of effective or potential data for collection around the student body, the local and international labour market intelligence, the transformation process, the graduate destination and the career progression of alumni. The obvious data sets are of demographic, academic and destination nature, yet these do not give an account to measure (and subsequently manage) the transformation process in place. Each of the cases indicates the value of labour market intelligence to help align the efforts of a HEI with industry in order to make informed decisions around the design and

development of programmes whereby the use of data that is sector specific and indicates trends of industries is considered highly valuable. The cases also present, at different levels of detail, the value of data around the transformation process the institution has in place, whereby HEI1 and to some extent HEI3 data around the curricular component of its transformation process by means of mapping graduate profiles and course outcomes against a set of generic competencies that were the result of labour market research. HEI2 and HEI3 rely mostly on standard quality assurance data to evidence the development of its graduates and consider employability development as implied. Academic assessment data is indeed the largest set of data around the development of the learners in line with the design and development of courses for employability, yet the inclusion of industry partners in the transformation process allows to have a third party evaluation and endorsement of not only the graduates but also the transformation process. HEI3 further also has data on the professional profiles of each of its learner as part of internship component of its programme. HEI1 and HEI3 also collect data around the manner in which the institution interacts with industry in terms of frequency and success of the engagement. HEI1 recently started to collect information on employability best practices in HE to build a body of knowledge for the institution. Each of the three cases indicate that more detailed data concerning employability related activities and contexts would be highly beneficial to the organization, yet also recognizes the complexity of identifying measures, collecting the data and using it effectively.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature

review and the intuitively indicative nature of the maturity levels as described above,

the following gradient description was generated for this criterion (Table):

Table 44: Gradient Description 'Data' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
basic demographic, academic and destination data only (simple metrics e.g. employment status before graduation, after graduation, 3 months, salaries)	Basic demographic, academic and destination data, some general labour market information, some general data on the employability development process.	Varied levels of data on the local external environment (economic and labour market), academic transformation process, support activities, learners and graduates: e.g. Comprehensive demographic, academic and	Comprehensive employability data on the local external environment, institutional transformation process, learners and graduates. Sector specific labour market intelligence according to programmes.	Highly detailed, highly current employability data on local and global external environment, institutional transformation process, learners and graduates. Highly relevant or tailored

(Continued)

Table 44 (Continued) : Gradient Description 'Data' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
		destination data with follow up, up to date labour market intelligence, detailed data (qual or quant) on the process of employability development, some data on results of the employability development process, formal employer appraisals of learner's work according to institutional assessment frameworks. Curriculum evaluation by students includes a component dedicated to employability.	Future trends and strategic public policy emphasis in local labour market. Data profiles per learner. Best practice data and information on employability and HE.	metrics of labour market requirements and programme specific profiles representative of specific industries and employers. Detailed process metrics and KPI's reflecting the institutional transformation intention and the reality of the learners' development. Data and information on the state of the art in HE for employability. Detailed career path data on graduates.

1.2.5.2. Systems

The gathering of data, but in fact the wider address of institutional or programmatic quality relies on orchestrated efforts to identify KPI's, measure appropriate variables, analyze and report results, and take action towards improvement. The quality management process that is the most prominent in place with some explicit links to employability is the OKR system at HEI1. This results in cascading quality improvement plans at institutional and programme level allowing to connect strategic directions and operational activities in a clear manner.

At the curricular/programme level, while the use of student information systems as part of the registration activities and the collection of superficial destination data is common practice, some of the cases highlight particularities in approach. Understanding of the labour market is in its majority attained by means of consultation mechanisms with industry partners or the use of governmental reports whereby HEI3 uses an advisory board to address the institutional approaches and steering committees for programme specific alignment. HEI1 and HEI2 only use programme specific advisory committees. Each of the cases evidences the inclusion of such consultation as a systematic part of its institutional practice. Data collection on the transformation process is typically spread across the mechanisms in place that deal with assurance of learning and the support activities around career. HEI1 clearly articulates the evaluation of employability related aspects in its curriculum in particular focused on the institutional employability competencies set it has in place. HEI2and HEI3 also assess for ability, but the link to employability related competencies is more implicit. HEI1 also formally includes a component of employability in its course evaluation by students. All institutions require its faculty to

evaluate courses periodically yet the inclusion of employability related aspects is not always a formal part of the evaluation criteria. At HEI1 and HEI2 processing of certain data around quality happens at a centralized point, which is then reported to the concerned parties however the lack of employability related data indicates the need for a more focused approach. Support services around career are typically measure for learner attendance only but HEI1 and HEI2 also evaluate the satisfaction of participating partners from industry towards their ability to recruit from such events. It is rather clear that a systematic data collection process needs to be in place whereby the transformation process is informed through a 360 degree approach of evaluation that includes all aspects of the process and all its stakeholders. HEI2and HEI3 use external parties to collect destination data, whereas HEI1 feels the need to develop its own graduate tracking mechanism even though it indicated the value of external bodies in terms of objectivity. The practice of HEI3 in particular relies on a highly systematic and nationally structured data collection around graduates supplemented by other international data sources.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 45: Gradient Description 'Systems' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Simplistic use of SIS system alongside yearly collection of destination data through phone or online survey.	SIS system alongside yearly destination data collection through phone or online survey, secondary research or superficial consultation with industry on labour market requirements and Isolated efforts of piloting data collection mechanisms concerning the institutional transformation process.	SIS system, systematic destination data collection and use of semi-systematic data collection mechanisms on the ansformation process and labour market requirements.	Systematic employability data collection around environment, process, learners and destination. The institutional transformation process is broken down in metrics or qualifiers through a 360 degree approach that includes internal and external stakeholders.	Systematic, automated and highly regular collection of a comprehensive data set of employability data that are highly relevant to the context of institutional and programme specific practice around employability and HE on the one hand and particular specifics to the HEI in question around environment, process, learners and destination. Specialist external partners feed highly reliable and highly significant data to the institution.

1.2.5.3. Analysis and Reporting

Analysis and reporting on employability is typically part of the compliance with quality assurance demands in a larger context of continuous improvement. Due to high complexities of national and international accreditation mechanisms, this results in employability often being address in a rather simplistic or secondary manner, whereby the spirit of using employability related data and information as part of an improvement cycle is not always that evident. Each of the cases finds it challenging to set up a system that will allow for effective evaluation of data around employability and feeding the findings back to the concerned internal stakeholders. HEI1 and HEI2 suggest a more ad hoc approach to analysis and reporting yet hold aspirations to do this on a more institutionally systematic level. HEI3 uses the analysis and reporting by external parties mostly and uses qualitative exchanges with various stakeholders as an approach to analyzing the effectiveness of its process. Each of the institutions seems to have a good understanding of the labour market and what is required and is able to disseminate this expectation effectively to the relevant internal stakeholders which are primarily academic in nature. The practice, depth and systematic nature of the analysis and reporting on the ability of the process to address employability prove to be far more challenging. Even though each of the institutions has regular review cycles in place, this does not guarantee employability indicators to have a part in this, and therefore analysis and reporting on employability address of the transformation process has proven to be scarce in each of the three cases. Each of the institutions assumes that through consultation with industry at design and development level of the programme the result will be in line

with the expectation. The case of HEI1 evidences the realization that such assumption maybe premature and indicates the value of a more careful analysis of the transformation process in terms of impact on learners in order to be able to evidence the development of employability and move beyond isolated events or siloed approaches of evaluation towards a more institutionally sound approach. Each of the cases report on a low granularity of the data and information that is being disseminated and a call for more appropriate granularity for different levels in order to better understand the gaps that need to be addressedis certainly not absent. The systematic process that HEI3 has in place for its internships as a mandatory component of the curriculum gives large opportunity for further analysis and detailed reporting on the impact of the transformation process prior, during and after the internship, yet this is not developed beyond the posting of professional profiles of learners in the system and minor learner reflection in its formal assessment. HEI1 is the only institution that flags good practice and circulates such good practices throughout the institution. The contextual nature of employability based on the field specific expectations of the labour market would argue the value of more in depth analysis and tailored reporting at programmatic level through systems and processes that would allow for virtually real time performance indicators including not only results of the process but also institutional knowledge thereof. The use of systems that would operate using principles of analytics in a digital and even automated context certainly hold potential to more efficiently generate insights in the process performance and opportunities for improvement, yet its development is recognized to be challenging.

Based on interpretation of the findings from the case studies, the researcher's

general understanding of the context through exhaustive literature review and the

intuitively indicative nature of the maturity levels as described above, the following

gradient description was generated for this criterion (Table):

Table 46: Gradient Description 'Analysis & Reporting' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Very simplistic analysis for compliance reporting purposes only. Reports are mainly produced on external demand and are generally not used for evaluation, feedback or improvement	Basic analysis around destination data, qualitative analysis around labour market requirements. Reporting on employability data is not standardized beyond compliance requirements.	Semi systematic employability data analysis and established reporting mechanisms at the level of labour market requirements, destination data, demographic data, academic performance	Systematic analysis and reporting of employability data around curricular process, output and context. Semi-Systematic in depth analysis and reporting on employability data around programme or course specific impacts and the total institutional transformation process towards the generation of	Highly in depth analysis and highly tailored reporting of employability data inclusive of comparing up to date contextual, process and destination data, inclusive of the ability to run simulations around context, process and destination. Ability to

(Continued)

Table 46 (Continued) : Gradient Description 'Analysis & Reporting' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
purposes.	Findings of analysis and reporting provide limited feedback to internal stakeholders and are only sporadically used for evaluation or improvement.	and curricular contributions to employability development. More ad hoc or siloed analysis and reporting of employability data at the level of program and institutional transformation process without established analysis or reporting mechanisms.	comprehensive employability profiles per student. On As part of the review cycles, gaps between labour market requirements and the HEI's intended/realized outcomes are identified and reported on for improvement. Data and analysis is reported back to relevant stakeholders in a format and granularity relevant to its use. Good practice and poor practice is flagged and respectively celebrated or investigated.	generate instant snap shots in time around current performance of the transformation process in context. Professional development requirements are systematically highlighted and reported at relevant level. Automated or semi-automated suggestions around optimized approaches towards meeting graduate profile requirements. Key external partners are included in the performance reporting.

1.2.5.4. Standard and Accreditation

The setting of standards around quality indicators is typically guided by national and international accreditation for HE yet the value of using professional accreditation is certainly evident from the cases of HEI1 and HEI2. National and international HE accreditation give varying attention to employability which suggests the development of a system that is able to generate comprehensive evidence around employability. This of course requires a clear common understanding between all stakeholders of employability and the institutional approach towards it. The case of HEI1 and to some extent HEI2 evidences this to be challenging, however the case of HEI3, perhaps due to a stronger national structure around data collection and reporting, showcases such understanding to be possible. Each of the cases evidences the intuitively obvious priority to comply with national standards which bears the risk of becoming the only compliance standard. The same train of thought can be argued for the international accreditation attainment as evidenced by HEI3, whereby since the attainment of prestigious accreditation labels in the HE landscape the institution runs the risk of not giving the required attention to maintaining such accreditation in a spirit of continuous improvement. The use of external validation panels also helps to support claims for accreditation and allows for proposing alternative approaches and standards for the HEI. By including employability as a formal quality indicator in the review mechanisms of the institution, the standard that is employability should be further carefully aligned with the socio-economic context of the largest targeted destination, which typically includes professional certification bodies such as evidenced in the HEI1 and HEI2 cases. This would include labour market expectations and realities as a clear benchmark for not only field specific but

also career oriented competencies. The use of various rankings allows highlighting institutions that exhibit high performance. HEI2 and HEI3 for example are highly ranked when it comes to starting salaries and HEI3 specifically scores very high in terms of employment upon graduation. Continuous fine tuning of the review processes and closing the loop towards improvement, can allow an institution to attain not only accreditation and meet the expectation of the labour market, but furthermore become a benchmark for other institutions by means of attaining various endorsements of highly relevant public and private parties.

Based on interpretation of the findings from the case studies, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for this criterion (Table):

Table 47: Gradient Description 'Standard & Accreditation' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
The standard around employability is internally decided in compliance with guidelines of national relevant educational standards in terms of contents that need to be covered and administrative procedures that need to be in place.	Even though employability is not part of an institutional policy, quality considerations around employability are given some attention in curricular activities. External parties are consulted at the outset of the program to establish an	Employability is formally recognized as a quality indicator for the overall performance of the HEI yet this is mostly viewed so in terms of curricular activities. Review, validation, quality assurance and accreditation exercises of all	The address of the HEI towards employability is holistic in nature and considered as a priority quality indicator for its overall operations. Professional industry standards and industry expectations are formally known and understood for each program.	The HEI is constantly fine-tuning its employability address through systematic large and small scale reviews and external validations beyond the required national, international and professional accreditation requirements. The address of the HEI towards employability is often referenced as the field quality benchmark.

(Continued)

Table 47 (Continued) : Gradient Description 'Standard & Accreditation' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Employability is seen as a by-product of a quality academic process.	internally generated standard in relation to how the program addresses employability. There is lack of common understanding by all stakeholders on the topic. The institution complies with the national accreditation guidelines around employability.	programmes include employability as a formal component. Some general quality indicators refer back to the performance of the curricular activities in the context of employability. The institutional review process addresses the performance of support activities. The institution has formally stated	Labour market expectations and realities are understood to benchmark expected outputs of supporting activities. Both areas of activities form part of a formal and systematic review process of the institutional approach towards employability with the eye on continuous improvement.	The institution is committed to exceed the requirements and expectations of industry and the labour market. Each of the offered programs is endorsed by professional accrediting bodies and a wide spectrum of entities in both the private and public sector. Each of the programmes has a variety of employability relevant third party

(Continued)

Table 47 (Continued) : Gradient Description 'Standard & Accreditation' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
		objectives around how the institution aims to address employability. The programmes are aligning with credible and meaningful professional certification bodies.	The offered programmes are accredited by professional certification bodies. The institution is placed highly in rankings that consider employability indicators.	recognized achievements. The institution is invited to showcase its practice and engage in professional development for other HEI's either through professional or governmental development programmes.

1.2.5.5.Dimensional Statement on Quality Measurement

For employability to be truly regarded as a quality indicator and for its potential as an evaluative factor for improvement to be recognized, the institution requires going beyond a perspective of mere compliance and simplistic destination data reporting. Instead, it should be using national, international and professional accreditation standards and trends in labour market expectations to

establish an institutional standard that is commonly understood by internal and external stakeholders. This includes formal consideration to employability in quality management of both curricular and support activities at both process and output levels towards the development of a systematic mechanism of continuous monitoring, analysis, reporting and action plans for improvement.

Based on interpretation of the findings from the case studies, all gradient statements per criterion, the researcher's general understanding of the context through exhaustive literature review and the intuitively indicative nature of the maturity levels as described above, the following gradient description was generated for 'Quality Measurement' (Table):

Table 48: Gradient Description 'Quality Measurement' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
Quality control around employability is not considered important or beneficial for improvement.	Quality considerations around employability are predominantly considered by articulating espoused	Quality in terms of the process is given attention through the identification of measures for quality control. Employability	Quality around employability development is managed throughout the transformation process in a holistic manner. Detailed data	The institution continuously monitors the transformation process for its development of employability against a highly up to date objective of

(Continued)

Table 48 (Continued) : Gradient Description 'Quality Measurement' EDAMMv1

Traditional	Espoused	Enacted	Integrated	Optimized
It is approached from a compliance perspective using simplistic destination data for reporting purposes.	quality against general requirements of the labor market. This is primarily justified through destination data and very general, highly sematic measures in terms of the developmental process that is in place. Employability is included in institutional quality discourse but is only sporadically used as a measure or driver for improvement.	is actively included in the quality management of the curricular practices alongside with some minor consideration that is given to the monitoring of support activities. Analysis and reporting is happening in various departments in isolation from one another and lacks a systematic approach and institutionalized mechanism to make it feed into a larger plan for improvement.	from a comprehensive set of stakeholders is collected and analyzed in an institutionalized systematic way towards monitoring both process and outputs of all relevant activities. Reporting results in action plans for quality improvement that fit in an institutional quality improvement plan.	industry and societal measures inclusive of professional accreditation in both industry and educational context. Using highly detailed and comprehensive data, it continuously fine-tunes its process and is highly responsive and agile towards economic and societal dynamism. The institution is considered as a high level benchmark in terms of HE and employability.

CHAPTER 5

DEVELOPMENT OF EDAMMv2 THROUGH DELPHI EXPERT

CONSULTATION TO VALIDATE EDAMMv1

"An expert is who has succeeded in making decisions and judgments simpler through knowing what to pay attention to and what to ignore."

1. Summary of the Design and Progressionof the Delphi Consultation

Following the recommendations of Day and Bobeva (2004) around Delphi consultation design, the current study was able to follow the a priori assumed appropriate design principles as presented in Table 49. (represented below).

Table 49: Design Criteria for Delphi Technique

DESIGN CRITERIA	OPTIONS			
Purpose	**Theory/model building**	Exploration	Hypothesis testing	Evaluation of options
Participants	Homogeneous		**Heterogeneous**	
Anonymity	Full	**Partial**		Not Anonymous
Maximum number of rounds	2	3	**4**	>4
Participants per round	**Target of 7 panelist per round**			

(Continued)

Table 49 (Continued) : Design Criteria for Delphi Technique

DESIGN CRITERIA	OPTIONS			
Concurrency of rounds	**Sequential**		Simultaneous	
Mode of operation	Face to face	Hybrid		**Remote**
Communication media	Postal mail	telephone	Fax	**e-mail/Internet**
Other termination criteria	**Final Consensus > 70%; no less than 7 panelist in each round**			

The purpose of the consultation was indeed to contribute to the building of the

model by validating on the one hand its general approach as an appropriate means for

diagnosis of a HEI in terms of its address of employability and on the other hand its

content at both choice of components and description level. This validation is

attempted by means of exposing the EDAMMv1 to the scrutiny of 7 relatively

heterogeneous expert participants. Three of the seven experts identified at the initial

point of crafting the methodology for this study (Table 50) were not available at the

time of the administration of the consultation leading to the need to identify three

additional experts in order to adhere to the minimal requirement for composition of

the expert panel. The identification of experts was recognized as a potential obstacle to

realize this consultation at the outset of developing the methodology however this

challenge was effectively tackled by means of relying on the network of initially

identified experts. One of the experts that opted out had identified a replacement participant and two of the four remaining participants granted the researcher access to their network, resulting in the securing of the required number of participants without compromising the selection criteria as outlined in the methodology as is evident from the profiles of each of the expert participants outlined in Table Table 50. The profiles evidence, particularly on the basis of experience in HE and their fields of expertise, that most if not all the participants have operated (or still do) in a capacity that allows them to meaningfully judge the content of the model in its context. The spread of expertise in Quality Assurance, Teaching and Learning, HE Management, Research, Programme Design and Management, Programme Review, Accreditation, Professional Development, Career Development, Knowledge Management, Learning Support, Business Mentoring and Entrepreneurship give confidence that the consultation can yield an evaluation of the model that comprehensively captures the totality of a HEI operation. The overall high level of experience in HE and the primary positions of the panel members additionally strengthen the argument that this panel is able to meaningfully evaluate the holistic and institution wide nature of this model and its content. The use of the network of committed participants to identify additional experts, slightly reduced the partial anonymity of the expert panel yet this was not seen as a compromising factor to proceed with the newly identified panel since throughout the consultation, following standard practice of consolidating responses (Day & Bobeva, 2004), no mentioning was made of what content was contributed by which participants.

Table 50: Delphi Technique Panelists

ID	Geography	HE Experience	Expertise	Qualific ation	Position	Industry Experience
Exp 1	South Africa	20+yrs	Quality Assurance, T&L, HE Management, Research.	PhD	Executive Director, Dean, Professor	yes
Exp 2	UK / Middle East	15+yrs	HET&L, Research, Programme Design and Management, Accreditation, Professional Development.	PhD	Dean, Associate Professor, Corporate Trainer and Coach.	yes
Exp 3	Scotland	15+yrs	HE Management, Research , Chartered Professional , Programme Review	PhD	Programme Manager, Quality Assurance Auditor	yes

(Continued)

Table 50 (Continued) : Delphi Technique Panelists

ID	Geography	HE Experience	Expertise	Qualification	Position	Industry Experience
Exp 4	New Zealand	10+yrs	Career Development in HEI's	MA	Programme Manager Career Development	yes
Exp 5	Australia	7+yrs	KM, Higher Education, T&L, Learning Support, Business Mentoring, Entrepreneurship	PhD	CEO, Senior Industry Fellow, Entrepreneur	yes
Exp 6	USA	20+yrs	HE, T&L, Quality Assurance, Research	PhD	Assistant Professor, Programme Manager, Dean	yes
Exp 7	Bahrain	10+yrs	Quality Assurance, HE Management, Research, T&L	PhD	Academic Quality Specialist	no

The consultation was foreseen to be concluded after a maximum of four rounds, where after administration, the consultation was found to result in a consensus for closure after three rounds. Based on the feedback from the participants, it was evident that the Design Science approach of carefully applying the design-, rigour- and relevance cycles at the first iteration of model development through exhaustive literature review and the three purposefully selected case studies resulted in a highly satisfactory result. The model was generally reported to be appropriate, very detailed and highly comprehensive in light of its context and the issue it aims to address. The requirement of a minimum of 7 panelists per round was achieved throughout all three sequential consultation rounds. In order to consider any statement made around the model as valid, the study set out a high objective of $>70\%$ consensus among the experts. Even though this is an ambitious termination criteria compared to the minimum of 51% as per the recommendations of Linstone and Turoff (2002), it was felt that this was necessary due to the low number of participants which renders the use of statistical measures such as Spearman's rank order meaningless on the basis of significance.

2. Preparation, Pilot and Administration of the consultation questionnaires.

Given the confirmatory purpose of the consultation, the researcher was able to prepare the consultation questionnaire for each of the rounds of consultation for the most part prior to starting the Delphi, whereby each round introduced progressively more detail of the model given consensus in the previous round and considering additional input per round. Round one was designed to capture the panel's opinion on the approach of maturity modeling as a diagnostic practice for institutional employability address and the fundamental components/structure of the model (i.e.

levels, dimensions and criteria). Round two was intended to address any concerns raised in round one and submit the appropriateness of the gradient descriptions of the EDAMMv1 dimensions and criteria to expert scrutiny. The objective of round three, apart from the discussion of any issues raised in round two, was to outline the perceived diagnostic power of dimensions and criteria towards the possible development of a quantitative application of the model. A fourth round was initially considered to review the totality of the model in case the need for substantial alterations emerged after round three or to discuss divergence of answers towards consensus. This fourth round was in fact – as will be evident from later elaboration – eventually not required.

In designing the consultation questionnaires for the three rounds, the intended questionnaire content of each round as outlined in the methodology section was carefully followed. Due to higher than anticipated consensus among the experts and some delay in administration, the fourth round was considered unnecessary. An additional question was added to the questionnaire in round three in order to reach a closing statement from each of the experts. The closing the consultation after three rounds is in line with the literature which suggests that three rounds of consultation typically results in an adequate outcome given careful preparation (Linstone & Turoff, 2002). Prior to dissemination to the panel, each of the questionnaires was presented to two people actively involved in respectively quality management and programme management at a HEI as a form of pilot testing in order to assure clarity and face validity of the questions. This highlighted the need for minor alterations of question phrasing and the indication that asking to justify scorings of highly appropriate (Likert score 4) and appropriate (Likert score 3) ran the risk of generating response fatigue. The

articulation issues were addressed were necessary and the issue of possible response fatigue resulted in altering the approach by means of only asking for justification of scorings in case the respondent scored the presented items as inappropriate or highly inappropriate. A blank copy of the final questionnaires used for each round can be found in APPENDICES6, 7 and 8.

Each of the questionnaires contained an introductory section whereby the expert was thanked for their participation and the purpose of the respective consultation round was clearly outlined. Each section of the questionnaire was introduced with a clear and concise statement around its content and the general idea of that task. The questionnaire of the first round included a one page abstract outlining the overall study in which this consultation fits, however at the point of securing each of the participants of the panel, the study, its methodology and the expectation around participation in the Delphi panel, where outlined in much larger detail, discussed at length and agreed upon. This was done in order to secure a smooth administration of the consultation. The one page abstract at the start of round 1 was therefore assumed to be sufficient to remind the participants of what was discussed prior to the administration of the rounds. The first questionnaire also included a section that carefully articulated some highly important opening consideration and perspectives in order to clearly frame the operationalization of Higher Education and Employability in order to have a focused perspective at the outset of the consultation. Round 1 consisted of five sections whereas rounds 2 and 3 each were addressed in four sections. Overall the experts were asked to rank statements, score them for appropriateness in context of the study, justify their scores when required, highlight errors, suggest missing elements, indicate the importance of each component in the

model and give general evaluative statements around the approach, the model and its elements. The appropriateness scoring was consistently done by means of a Likert Scale of 1 (Highly inappropriate) – 4 (Highly appropriate). At the end of each questionnaire the participants were given the opportunity to give general remarks around anything that related to the respective round in order to establish a recurring opportunity for critique or expression of concern about the consultation.

The questionnaires were distributed via a blind mailing list in order to maintain the anonymity of the participants. For each round the deadline for response was clearly set. After one week of the initial sending of each questionnaire, a reminder email was sent in order to keep the panel focused on responding to the questions within the time frame and allowing the consultation to progress in a timely manner. The consultation started on April 20th 2016 and was closed on July 24th 2016 reflecting a two months delay compared with the initially planned date of completion.

3. General Discussion of the Findings

A full and in depth discussion of each of the three Delphi Expert Consultation Rounds is available in Appendices 9, 10 and 11, however for the purpose of conciseness and in consideration of this manuscript's readers, the researcher has opted to contain the reporting in this section to the most relevant elements of the consultation. Relevance in this case refers to the main purpose of the consultation i.e. the result of a validated EDAMM. The consultation session worked progressively through the validation of various elements towards the construction the EDAMMv2 a valid diagnostic tool in the context of this study.

3.1. Progressive Validation Towards EDAMMv2

3.1.1. Round 1

For a detailed account of the discussion of this rounds, findings, the reader is referred to Appendix 9. As summarized in Table , Round 1, by means of 5 tasks, addressed the validation of:

1. the approach of maturity modeling

2. the building blocks of the EDAMM structure as per the EDAMMv1.

Table 51: Round 1 Tasks and Purpose

Task		Purpose
1	Score the appropriateness of the practice of Maturity Modeling for diagnosis of a HEI's approach to employability.	Validate the general approach of Maturity Modeling for the diagnosis of a HEI's employability transformation process.
2	Rank five process descriptions in terms of their level of sophistication.	Validate the maturity levels on the basis of their fundamental demarcation.
3	Score each proposed dimension of the model for appropriateness as per the model's purpose and justify the score if required. Suggest potentially missing dimensions.	Validate the comprehensiveness of the model's dimensions.

(Continued)

Table 51 (Continued) : Round 1 Tasks and Purpose

	Task	Purpose
4	Score the criteria that make up the dimensions of the model for appropriateness as per the model's purpose and justify the score if required. Suggest potentially missing criteria per dimension.	Validate the comprehensiveness of the criteria for each of the dimensions in the model.
5	Overall additional comments	General comments, critique or reservations.

3.1.1.1. Maturity Modeling as an approach

Even though the panel highlighted that the very nature of modeling suffers from the fact that it is only an approximation of what is - in this case - a highly complex reality, the practice of Maturity Modeling for the diagnosis of a HEI's address to employability was unanimously found to be in principle a validapproach. As the detailed discussion (Appendix 9) indicates, the comments highlighted that fact that the panel understood the nature of maturity modeling further strengthening their verdict.

3.1.1.2. Maturity Levels

Six out of seven experts ranked the shuffled process descriptions in a way that outlined the overall progressive sophistication statements per maturity level as proposed in the EDAMMv1. This result gave confidence that the five levels are clearly different and contain effective statements that allow identification of progressive sophistication. This consensus of the ranking resulted in -

from hereon out - the naming of each level as per the labels used in the EDAMM v1 i.e. 'traditional', 'espoused', 'enacted', 'integrated' and 'optimized'. This labeling did not trigger any comment when presented to the panel.

3.1.1.3. Dimensions

The panel unanimously validated each of the proposed dimensions of the model and the comments suggested highly meaningful engagement of the panel with the task and critical evaluation of the contents presented to them. The panel raised various elements for consideration such as 'the inclusion of the learner in the model', the need for consideration of 'HR practices', the 'importance of people in the realization of a system', appropriate 'attention to T&L practice' and the need for 'consideration of labour market research'. Upon evaluation of the deeper detail of the EDAMMv1 as described in the detailed outline of this consultation round, these points were found to be adequately addressed and considered as not warranting further action.

3.1.1.4. Criteria

All 22 proposed criteria were found to be valid by means of unanimous consensus for 21 criteria and consensus among six experts for the remaining criterion. The comments highlighted a total of 15 additional criteria proposed for consideration among the different dimensions. Upon evaluation of the finer detail of the EDAMMv1 as outlined in the detailed description of this round, the researcher considered 12 criteria to be adequately addressed in the current model. The remaining three criteria 'Consideration of students with learning difficulties', 'Student welfare/happiness' and 'Relationship between the HEI and the wider community' were withheld for further appropriateness scoring by the panel in the next round.

Table ꞉ presents the summary of the outcomes of the first round against its purpose at the outset.

Table 52: Round 1 Outcomes

Purpose		Notes
1	Validate the general approach of maturity modeling for the diagnosis of a HEI꞉s employability transformation process.	The practice of Maturity Modeling is in principle validated as an approach for the diagnosis of a HEI꞉s employability transformation process.
2	Validate the maturity levels on the basis of their fundamental demarcations.	The proposed maturity levels were found to be valid.
3	Validate the comprehensiveness of the model꞉s dimensions.	The proposed dimensions of the model were validated as appropriate and comprehensive.
4	Validate the comprehensiveness of the criteria for each of the dimensions in the model.	All proposed criteria were validated as appropriate. Three topics were raised as potential additional criteria to the model: - Consideration of students with Learning difficulties - Student welfare/happiness - Relationship between HEI and the wider community These three are presented to the expert panel in the following round for validation around appropriateness as diagnostic criteria.

3.1.2. Round 2

For a detailed account of the discussion of this rounds' findings, the reader is referred to Appendix 10. As summarized in Table , Round 2, by means of 4 tasks, addressed the validation of:

1. additionally proposed criteria from Round 1

2. the benchmarking statements per dimension and criteria as per the EDAMMv1.

Table 53 : Round 2 Tasks and Purpose

Task		Purpose
1	Score the newly suggested criteria emerged from Round 1 for appropriateness as per the model's purpose and justify the score if required.	Validate the comprehensiveness of the criteria for each of the dimensions in the model.
2	Score the gradient descriptions across the maturity levels of each dimension for appropriateness as per the model's purpose and justify the score if required.	Validate the benchmarking statements per dimension for each maturity level.
3	Score the gradient descriptions across the maturity levels of each criterion for appropriateness as per the model's purpose and justify the score if required.	Validate the benchmarking statements per criterion for each maturity level.
4	Overall additional comments	General comments, critique or reservations.

3.1.2.1. Newly suggested criteria

The newly suggested criteria 'Consideration of students with learning difficulties', 'Student welfare/happiness' and 'Relationship between the HEI and the wider community' were found to be appropriate elements in the context of this study. After careful consideration in terms of parsimony, it was decided that including the proposed element in existing criteria would be more appropriate than adding additional criteria to the model. A more nuanced and explicit articulation of existing descriptions at criteria and dimensional level was deemed the more effective approach for the model to capture the proposed elements. For each of the newly proposed elements, an argument was developed carefully outlining the reasoning of this decision inclusive of the way in which the incorporation would be realized. These arguments were advanced to Round 3 of the consultation to be presented to the panel for rejection or acceptance. This was deemed appropriate since the investigation of the detail of the model in Round 2 would allow the experts to meaningfully interpret the respective arguments in Round 3.

3.1.2.2. Gradient descriptions at dimensions level

The gradient descriptions for each of the dimensions were validated by means of 100 % consensus across all dimensions with minimal comments towards improvement, resulting in a minor alteration of statements regarding the 'Support Services' dimension.

The description of the 'Curriculum' dimension was suggested to lack an address of employability as a meta-competency by one of the experts. Since further detail of the model at criteria level addresses this notion substantially, the comment was not considered to warrant an alteration of the proposed statement.

Based on a suggestion of one of the experts, the dimension 'Support Services' was re-termed as 'Employability Support Services' due to its focus on career and employability and not to be confused with the more traditional conception of learning support services. The description of this dimension was further suggested to benefit from the consideration of 'career practitioners' at optimized level. This resulted in a minor alteration of the dimension statement and further consideration of 'career practitioners' at criteria level (i.e. criterion 'staff'). The alteration of the dimension level statement was not considered substantial enough to warrant for re-validation in a further round. A final comment by one of the experts contended the descriptions of 'Industry Relations' and 'Employability Support Services' to be somewhat repetitive in terms of the latter's link to the graduate employment. After careful review, this comment was not considered to require action since the scope of each of the dimensions and its description was considered to be significantly different.

3.1.2.3.   Gradient descriptions as criteria level

All the criteria level gradient descriptions were validated by the panel. In 15 cases, the comments resulted in minor alterations of the descriptions, whereby in no instance the alterations were substantial enough to warrant the need of re-validation of the statement in a following round. This gives overall confidence in the robustness of the model as a result of the exhaustive literature review and the elaborate case studies that formed the foundation of EDAMMv1.

a.   Curriculum

In line with the comment around explicating the role of career practitioners in 'Employability Support Services', the same notion was raised for the description of 'Design & Course Sequence' at optimized level and was addressed by

including career practitioners in the statement as one of the parties to be consulted in course design. The use of the terms 'young professionals' and 'entry level job requirements' in the 'Curriculum Development' and 'Outcomes' criteria was identified as potentially limiting the model to not apply beyond 'low level' HE qualifications. This comment was addressed by omitting 'young' from the descriptions and replacing the statement 'entry' by 'destination', referring to the requirements of the typical jobs that make part of the starting/ continuing career path after completion of the concerned qualification. The description of the criterion 'Faculty' was critiqued at optimized level on the use of the term 'business acumen', suggesting limited application of the model. This was addressed by replacing 'business' by 'destination field' and hereby giving consideration to a wider application of the model and appropriate expertise of the faculty as required by the respective qualification.

b. Employability Support Services

The description of the 'Organization & Orchestration' was found to need explication of the fact that the optimized state considered integration as a prerequisite. Since such alteration was deemed to enhance the clarity of the statement, the recommendation was taken on board. Based on the suggestion of one of the experts, the description of the criterion 'Staff' was slightly amended for clarity by means of including 'curriculum development acumen' at integrated level and replacing 'recruitment background' with 'understanding of professional recruitment practice'. In the description of the criterion 'Bridge to the labour market' the verb 'place' was replaced by 'introduce ...to' in order to align with the notion of personal responsibility a learner must take in forging their career and equivalently moderate the misconception that career centers or HEIs guarantee graduate employment.

c.   Industry Relations

The description of the 'Approach' criterion at the 'integrated' level was found to need explication of notions around avoiding siloed operation. Even though the statement was argued to hold adequate terminology to suggest this (i.e. 'departmental contact points' and 'internal network') it was further altered by means of replacing the term 'systematic' by 'systemic' to even further indicate the nature of integration. The criterion 'Results/Benefit for the HEI' was highlighted by one expert to suggest an elitist notion as a result of indicating the privileged position a HEI may acquire at optimized level in terms of driving the choice of association with industry partners. This statement does not suggest a deliberate approach, rather a result of a highly effective transformation process for employability and its acknowledgement by external stakeholders. The comment was therefore not considered to warrant for alteration of the criterion statement.

d.   Quality Measurement

The description of the criterion 'Data' at 'integrated' and 'optimized' level was argued by one of the experts to benefit from explicitly stating the type of data to be collected. Considering the terminology used in the proposed statements and the vigilance not to become highly prescriptive, the researcher found the current statements appropriate. Based on the suggestion of one of the experts, the description of the criterion 'Systems' at the 'Integrated' level was slightly amended by means of including 'employer satisfaction' in order to highlight consideration to be given to extracting employer satisfaction in an effective, valid and reliable manner.

e.   Leadership

In this dimensions, only the criterion 'Institutional Definition' raised a note questioning its value to the evaluation of the manner in which the HEI addresses employability. Aside from the fact that the criterion was already validated as appropriate in Round 1, the progressively more complex outline of elements that make up the definition of employability have as a purpose to present a baseline relevanceto all stakeholders of the HEI. It should furthermore not be seen in isolation of the other criteria that make up this dimension and was therefore judged to remain as an indicator without alteration. Table presents the summary of the outcomes of the second round against its purpose at the outset.

Table 54: Round 2 Outcomes

Purpose		Notes
1	Validate the comprehensiveness of the criteria for each of the dimensions in the model.	All newly suggested topics were validated as appropriate to be included in the diagnostic context, which, in combination with the results from round 1 (task 3 and 4) result in the validation of the comprehensiveness of the elements identified towards building the EDAMMv2. After careful consideration it was decided to not develop gradient descriptions for the three newly proposed topics due to the possibility to integrate them into existing criteria in search for higher

(Continued)

Table 54 (Continued) : Round 2 Outcomes

Purpose		Notes
2	Validate the benchmarking statements per dimension for each maturity level.	parsimony. These rationales for integration are presented for acceptance or rejection to the panel in Round 3. All proposed benchmarking statements at dimension level were validated as per the termination criteria of the Delphi Technique. Comments resulted in a minor alteration of the 'Employability Support Services' dimension level gradient statements. Since this change did not substantially alter the content or the manner in which the dimension would be interpreted, it was not found required to present it for revalidation to the panel in Round 3.
3	Validate the benchmarking statements per criterion for each maturity level.	All proposed benchmarking statements at criteria level were validated as per the termination criteria of the Delphi Technique. Various minor suggestions were proposed resulting in minor alterations of 15 criteria level gradient statements. Yet, since the changes did not substantially alter the content or the manner in which the criteria would be interpreted, it was not found required to present them for revalidation to the panel in round 3.

3.1.3.   Round 3

For a detailed account of the discussion of this rounds, findings, the
reader is referred to Appendix 11. As summarized in Table , Round 3, by means of 4
tasks, addressed:

1. the validation of the ability of the current model to capture the newly
suggested criteria instead of developing gradient dimensions

2. the identification of a weighting for each dimension and criterion
indicating its respective diagnostic power.

Table 55 : Round 3 Tasks and Purpose

Task		Validation Purpose
1	Score and comment on the appropriateness of the rationales concerning the ability of the existing criteria to absorb the newly suggested elements that emerged from consultation Round 1 and were scored as appropriate in Round 2	Validate the ability of the current model's gradient descriptions at dimension or criteria level to appropriately capture the newly proposed notions, resulting in the non-requirement of developing further gradient descriptions for each.
2	Assign weightings at the dimension level for the total model.	Arrive, across the total model, at a consensual assignment of the relative diagnostic power of each of its dimensions.

Table 55 (Continued): Round 3 Tasks and Purpose

Task		Validation Purpose
3	Assign weightings at the criteria level for each of the dimensions of the model.	Arrive, per dimension, at a consensual assignment of the relative diagnostic power of its criteria.
4	Overall additional comments	General comments, critique or reservations.

3.1.3.1. Model's Ability to Absorb Newly Proposed Topics

All three rationales presented concerning the adequacy of existing criteria – considering minor adjustments – to address the concerned topics were unanimously accepted by the panel, resulting in the complete validation of the EDAMM's structure and content as valid. The minor adjustments as per the rationales pertain either rephrasing of descriptions or minor additions of concepts to further explicate the concerned topics. The minor nature of the adjustments did not result in a significant enough change to the content of the model that would warrant the need for re-validation of the descriptions by the panel in an additional round.

3.1.3.2. Model Component Weightings

The weightings assigned by each expert were translated into rankings. Subjected to the consensus requirement of >70%, the rankings resulted in weightings at dimensional and criteria level. Table outlines the full weighting distribution as a result of the consultation which elaborated on in much more detail in Appendix 11.

Table 56 : Weighting Distribution Components EDAMMv2

Dimensions	Weightings	Criteria	Weightings
Curriculum	25.7%	T&L	22.1%
		Outcomes	21.6%
		Faculty	20.6%
		Curriculum Development	19.2%
		Design & Course Sequence	16.5%
Leadership	23.6%	Organizational Culture	20.6%
		Institutional Practice	18.3%
		Decision making	16.5%
		Overall Strategy	16.3%
		HR Strategy	15.5%
		Institutional Definition	12.8%
Quality Measurement	18.7%	Data	28.1%
		Standard & Accreditation	24.6%
		Systems	24.3%
		Analysis & Reporting	23.0%
Quality Measurement	18.7%	Data	28.1%
		Standard & Accreditation	24.6%
		Systems	24.3%
		Analysis & Reporting	23.0%

(Continued)

Table 56 (Continued) : Weighting Distribution Components EDAMMv2

Dimensions	Weightings	Criteria	Weightings
Industry Relations	17.5%	Approach	39.1%
		Form of relation	30.4%
		Result / Benefit for the HEI	30.4%
Employability Support Services	14.5%	Student Engagement	28.5%
		Organization & Orchestration	25.7%
		Staff	24.4%
		Bridge to labour market	21.4%

a. Dimension weightings

The dimension ·Curriculum· resulted in the highest weighting value indicating its core value to the educational endeavor. At a second place ·Leadership· is considered fundamental to create and maintain a conducive institutional structure that systemically addresses the goal of employability. ·Employability Support Services·, ·Quality Measurement· and ·Industry Relations· were reported to have a strengthening capacity to the realization of employability. ·Employability Support Services· were noted as beneficial for both learner and faculty. ·Quality Measurement· was reported as necessary for effective and informed management of the transformation process from entry level students to employable graduate. The external dependent nature of ·Industry Relations· was indicated as a factor to be considered against its diagnostic power.

b. Criteria weightings

As far as ·Curriculum· criteria are concerned, ·Teaching & Learning· was argued to be pivotal to realize appropriately developed ·Outcomes·. The ·Faculty· and particularly its composition was further argued to be instrumental to the realization of the process whereby procedural and policy matters around curriculum development and structure are considered more supportively rather than fundamentally diagnostic.

In the context of ·Leadership· themed activities ·Organizational Culture· and ·Institutional Practice· present themselves as the ultimate indicators of organizational leadership at operational level with ·Decision Making·, ·Overall Strategy· and ·HR Strategy· secondarily indicative of an appropriate strategic approach. ·Institutional Definition· was found to hold the least diagnostic capacity yet appropriately diagnostic to the realization of institutional conceptualization of employability.

In terms of the ·Quality Measurement· dimension ·Data· convincingly emerged as the most important indicating criterion for this dimension yet it was also noted that inadequate ·Systems·, inappropriate quality standards i.e. criterion ·Standard and Accreditation· or scant ·Analysis & Reporting· renders the collected data useless to articulate a notion of quality or inform the transformation process.

The ·Approach· to how a HEI tackles its ·Industry Relations· dimension was indicated as fundamental to this dimension's contribution to the overall institutional approach. The ·Form of the relationship· and the ·Result/Benefit for the HEI· are considered secondary to the approach in terms of diagnostic power.

Finally, 'Student Engagement' is argued to be fundamental to 'Employability Support Services' yet equivalently this is recognized to be as a result of effective 'Organization & Orchestration' by 'Staff' that is well versed in employability support. The creation of a bridge to the labour market was argued as an essential role, but considering its dependence on the destination context, it would be shortsighted to expect this to be a guarantee. Table presents the summary of the outcomes of the third round against its purpose at the outset.

Table 57: Round 3 Outcomes

Purpose		Notes
1	Validate the ability of the current model's gradient descriptions at dimension or criteria level to appropriately capture the newly proposed notions, resulting in the non-requirement of developing further gradient descriptions for each.	Based the consensus over the ability of the current model's gradient descriptions to capture the newly proposed notions, the model can be considered fully validated at the level of its semantic content.
2	Arrive, across the total model, at a consensual assignment of the relative diagnostic power of each of its dimensions.	A consensually agreed (>70% consensus) weightings assignment was reached at dimensional level of the model, requiring no further consultation in this regard.

(Continued)

Table 57 (Continued) : Round 3 Outcomes

Purpose		Notes
3	Arrive at, per dimension, a consensual assignment of the relative diagnostic power of its criteria.	A consensually agreed (>70% consensus) weightings assignment was reached at criteria level per dimension, requiring no further consultation in this regard.

4. Overall Outcomes of the Delphi Study

After three rounds of consultation and subsequent modifications based on comments and recommendations by the experts, the Delphi Technique was closed with an end result of a validated diagnostic maturity model consisting of:

1. Five maturity levels

2. Five weighted dimensions with gradient descriptions across all maturity levels (See Appendix 1 for finalized gradient descriptions)

3. 22 weighted criteria with gradient descriptions across all maturity levels (See Appendix 1 for finalized gradient descriptions)

Table 58 presents the weighted structure of the final EDAMM.

Table 58: Weighted Structure EDAMMv2

	Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services			
	25.7%					23.6%						18.7%				17.5%			14.5%			
5.Optimized																						
4.Integrated																						
3.Enacted																						
2.Espoused																						
1.Traditional	T&L	Outcomes	Faculty	Curriculum Development	Design & Course Sequence	Organizational Culture	Institutional Practice	Decision making	Overall Strategy	HR Strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis &Reporting	Approach	Form of relation	Result / Benefit for the HEI	Student Engagement	Organization & Orchestration	Staff	Bridge to labour market
	22.1%	21.6%	20.6%	19.2%	16.5%	20.6%	18.3%	16.5%	16.3%	15.5%	12.8%	28.1%	24.6%	24.3%	23.0%	39.1%	30.4%	30.4%	28.5%	25.7%	24.4%	21.4%

In order to show the potential output of an applied evaluation of the model, the researcher has taken the freedom to apply the EDAMMv2 to the HEIs that were used in the case studies as a type of proof of concept. Table , Table and Table show the respective scoring for each HEI by the researcher. This must be considered in context of the grounds on which the judgment is based in the sense that it is 1.inevitably partly steered by the personal interpretation of the researcher as the data collector in the study and 2. solely based on the information that was made available through the data collection realities as outlined in Chapter 4.Table shows the results of the weighted scores and the subsequent maturity levels per dimension and overall.

Table 59 : EDAMM scoring HEI1

	HEI1	Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services		
		T&L	Outcomes	Faculty	Curriculum Development		Organizational Culture	Institutional Practice	Decision Making	Overall Strategy	HR strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis & Reporting	Approach	Form of Relation	Student Engagement		Staff	Bridge to Labour Market
5	Optimized																					

(Continued)

Table 59 (Continued) : EDAMM scoring HEI1

		Curriculum						Leadership						Quality Measurement				Industry Relations			Employability Support Services			
4	Integrated																							
3	Enacted	x	x	x	x	x	x			x	x	x		x			x	x	x		x			
2	Espoused							x	x				x		x							x	x		
1	Traditional															x				x					

Table 60 : EDAMM Scoring HEI2

	HEI2	Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services			
		T&L	Outcomes	Faculty	Curriculum Development	Design & Course Sequence	Organizational Culture	Institutional Practice	Decision Making	Overall Strategy	HR strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis & Reporting	Approach	Form of Relation	Result / Benefit for the HEI	Student Engagement	Organization & Orchestration	Staff	Bridge to Labour Market
5	Optimized																						

(Continued)

Table 60 (Continued) : EDAMM Scoring HEI2

		Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services			
4	Integrated																				x		
3	Enacted	x	x	x				x					x								x			
2	Espoused				x				x	x	x		x	x	x		x	x		x	x		x
1	Traditional												x	x								x	

Table 61 : EDAMM Scoring HEI3

		Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services			
	HEI 3	T&L	Outcomes	Faculty	Curriculum Development	Design & Course Sequence	Organizational Culture	Institutional Practice	Decision Making	Overall Strategy	HR strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis & Reporting	Approach	Form of Relation	Result / Benefit for the HEI	Student Engagement	Organization & Orchestration	Staff	Bridge to Labour Market
5	Optimized								x									x	x				

(Continued)

Table 61 (Continued) : EDAMM Scoring HEI3

HEI 3		T&L	Outcomes	Faculty	Curriculum Development	Design & Course Sequence	Organizational Culture	Institutional Practice	Decision Making	Overall Strategy	HR strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis & Reporting	Approach	Form of Relation	Result / Benefit for the HEI	Student Engagement	Organization & Orchestration	Staff	Bridge to Labour Market
							Curriculum			Leadership				Quality Measurement			Industry Relations			Employability Support Services			
4	Integrated	x		x		x	x	x			x		x	x			x			x	x		x
3	Enacted		x		x				x						x								
2	Espoused											x				x						x	
1	Traditional																						

Table 62 : Proof of Concept EDAMM Results HEI1, HEI2 and HEI3

Maturity Levels										
Traditional	Espoused	Enacted	Integrated	Optimized						
TR	ES	EN	IN	OP						
1	2	3	4	5	Maturity Scoring			Weighted Score		
Dimension	Dimension Weighting	Criteria	Weightings	Max score	HEI1	HEI2	HEI3	HEI1	HEI2	HEI3
Curriculum	25.7%	T&L	22.1%	5	3	3	4	3.32	3.32	4.42
		Outcomes	21.6%	5	3	3	3	3.24	3.24	3.24
		Faculty	20.6%	5	3	3	4	3.09	3.09	4.12
		Curriculum Development	19.2%	5	3	2	3	2.88	1.92	2.88
		Design & Course Sequence	16.5%	5	3	3	4	2.47	2.47	3.29
	criteria equal weight	20.0%	100%	25	Maturity Level for Curriculum Dimension			19.28 EN	18.04 EN	23.08 IN

(Continued)

Table 62 (Continued): Proof of Concept EDAMM Results HEI1, HEI2 and HEI3

Maturity Levels										
Traditional	Espoused	Enacted	Integrated	Optimized						
TR	ES	EN	IN	OP						
1	2	3	4	5	Maturity Scoring			Weighted Score		
Dimension	Dimension Weighting	Criteria	Weightings	Max score	HEI1	HEI2	HEI3	HEI1	HEI2	HEI3
Leadership	23.6%	Organizational Culture	20.6%	5	3	2	4	3.70	2.47	4.94
		Institutional Practice	18.3%	5	2	2	4	2.19	2.19	4.39
		Decision Making	16.5%	5	2	2	3	1.98	1.98	2.96
		Overall Strategy	16.3%	5	3	3	5	2.94	2.94	4.90
		HR Strategy	15.5%	5	3	2	4	2.80	1.87	3.73
		Institutional Definition	12.8%	5	3	2	2	2.30	1.54	1.54
	criteria equal weight	16.7%	100%	30	Maturity Level for Leadership Dimension			18.80	15.33	26.53
								EN	ES	IN

Table 62 (Continued): Proof of Concept EDAMM Results HEI1, HEI2 and HEI3

Maturity Levels										
Traditional	Espoused	Enacted	Integrated	Optimized						
TR	ES	EN	IN	OP						
1	2	3	4	5	Maturity Scoring			Weighted Score		
Dimension	Dimension Weighting	Criteria	Weightings	Max score	HEI1	HEI2	HEI3	HEI1	HEI2	HEI3
Quality Measurement	18.7%	Data	28.1%	5	2	2	4	2.25	2.25	4.50
		Standard & Accreditation	24.6%	5	3	1	4	2.95	0.98	3.93
		Systems	24.3%	5	2	1	3	1.94	0.97	2.92
		Analysis & Reporting	23.0%	5	1	2	2	0.92	1.84	1.84
	criteria equal weight	25.0%	100%	20	Maturity Level for Quality Measurement Dimension			7.53	5.65	12.32
								TR	TR	EN

(Continued)

Table 62 (Continued): Proof of Concept EDAMM Results HEI1, HEI2 and HEI3

Maturity Levels											
Traditional	Espoused	Enacted	Integrated	Optimized							
TR	ES	EN	IN	OP							
1	2	3	4	5	Maturity Scoring			Weighted Score			
Dimension	Dimension Weighting	Criteria	Weightings	Max score	HEI1	HEI2	HEI3	HEI1	HEI2	HEI3	
Industry Relations	17.4%	Approach	39.1%	5	3	2	4	3.52	2.35	4.70	
		Form of Relation	30.4%	5	3	2	5	2.74	1.83	4.57	
		Result / Benefit for the HEI	30.4%	5	3	2	5	2.74	1.83	4.57	
	criteria equal weight	33.3%	100%	15	Maturity Level for Industry Relations Dimension			7.85	5.23	12.06	
								ES	TR	IN	

Table 62 (Continued): Proof of Concept EDAMM Results HEI1, HEI2 and HEI3

Maturity Levels										
Traditional	Espoused	Enacted	Integrated	Optimized						
TR	ES	EN	IN	OP						
1	2	3	4	5	Maturity Scoring			Weighted Score		
Dimension	Dimension Weighting	Criteria	Weightings	Max score	HEI1	HEI2	HEI3	HEI1	HEI2	HEI3
Employability Support Services	14.5%	Student Engagement	28.5%	5	1	3	4	1.14	3.42	4.56
		Organization & Orchestration	25.7%	5	3	4	4	3.08	4.11	4.11
		Staff	24.4%	5	2	1	2	1.96	0.98	1.96
		Bridge to Labour Market	21.4%	5	2	2	4	1.71	1.71	3.42
	criteria equal weight	25.0%	100%	20	Maturity Level for Employability Support Services Dimension			5.73	7.43	10.21
								TR	TR	ES
					GRAND TOTAL			59.19	51.68	84.20
					Maturity Level			EN	ES	IN

CHAPTER 6

CONCLUSION

"Reasoning draws a conclusion, but does not make the conclusion certain, unless the mind discovers it by the path of experience."

1. The Engulfing Context

With the new realities that the emerged knowledge economy and knowledge society have induced in terms of human capital requirements and changed career perspectives, the place and role of HE in this paradigm shift is a pertinent point of consideration. The continued rhetoric from industry around the mismatch between profiles of graduates from HE programmes and labour market requirements, together with the need for increased attention to career competencies, have raised significant challenges for HEIs in terms of accountability and fitness for purpose. Even though recognized as not uncontested in the literature, employability has been a longstanding goal on the HE agenda and has since the last two decades gained much attention in this context. This increased popularity, its adoption by many a HEI as a strategic objective and its integration in quality assurance frameworks has been challenged as commoditizing HE and rendering it a pale version what once was a noble quest for knowledge, the schooling of the mind and the furthering of humanity. The researcher however contends that this argument is predominantly driven by a misconception of what employability is and its place in HE. This study and its findings assume the need for a holistic conceptualization of employability by giving attention to its influencing factors of intrinsic, extrinsic and actionable nature. Through aggregation of the concerned literature, the first part of the literature review has elaborately outlined these three factors and subsequently operationalized employability in the context of

this study. This operationalization has illuminated the construct to be multidimensional, contextual and longitudinal in nature. The multidimensional nature of employability relates back to the fact that it concerns various types of competencies a person may or may not hold i.e. cognitive, procedural, inter-personal and meta-competencies. These four categories based on the unified typology of Winterton et al (2004) are deemed an appropriate way forward towards a meaningful address of mainly intrinsic factors to employ ability since the literature highlights a large issue around the semantics used in this regard. The contextual nature of employability, which makes the construct relative and subjective, is mainly rooted in factors that are extrinsic to the individual under varying levels of control positioned in e.g. personal, socio-cultural, economic, political, technological or legal spheres. The longitudinal nature of employability is highly significant to distinguish employability from employment. Employability entails a natural disposition to life-long learning and the ability to position oneself towards the future in a manner that is value adding for one's self and the system one is part of. This includes elements such as self-employment, career change and innovation, championing the public good, sustainability and service to society which typically do not make it to most of the current conceptions of employability. The pursuit of this holistic notion of employability through HE is arguably a very realistic and appropriate compromise between the polarizing ends of the debate around HE's 'raison d'être'. By re-conceptualizing employability a compromising ground can be found between the proponents of the employment focus and those who champion the schooling of and for humanity.

2. Addressing the Research Questions

After extensive literature review, the study roots into two main research questions to illuminate the problem this research has aimed to tackle. RQ 1, "How can a HEI address employability?", pursues the identification of HEI mechanisms that allow for an effective address of employability. RQ2, "How can a HEI be diagnosed on its fitness for purpose in terms of employability?", aims at the search for a diagnostic mechanism in this context. By viewing HE as a transformation process for employability (Mayur & Johnson, 2014), using the value chain perspective towards the operation of a HEI (McMaster, 2002; Pathak & Pathak, 2010) and giving consideration to the inclusion of the three influencing factors of employability (Vande Wiele, et al, 2014) in this HE process, this study has, following Design Science Research principles, produced a diagnostic maturity model: the Employability Development and Assessment Maturity Model (EDAMM).

shows the structure of the latest version of the model inclusive of the weightings of its components. For the detailed gradient descriptions of each of the components, the reader is referred to Appendix 1.

Table 63 : EDAMM Weighted Structure

	Curriculum 25.7%	Leadership 23.6%	Quality Measurement 18.7%	Industry Relations 17.5%	Employability Support Services 14.5%
5.O 4.I 3.En 2.Es 1.T	T&L 22.1% — Outcomes 21.6% — Faculty 20.6% — Curriculum Development 19.2% — Design & Course Sequence 16.5%	Organizational Culture 20.6% — Institutional Practice 18.3% — Decision making 16.5% — Overall Strategy 16.3% — HR Strategy 15.5% — Institutional Definition 12.8%	Data 28.1% — Standard & Accreditation 24.6% — Systems 24.3% — Analysis & Reporting 23.0%	Approach 39.2% — Form of relation 30.4% — Result / Benefit for the HEI 30.4%	Student Engagement 28.5% — Organization & Orchestration 25.7% — Staff 24.4% — Bridge to labour market 21.4%

Figure 10 presents, following the Design Science Research process by Hevner (2007), the major components on which the design of this knowledge artifact is stooled. This illustrates in general terms the design cycle of two iterations in which the study progressed from Research Question and Conceptual Model through a first version of the model rooted in the literature and field exploration towards a validated

version of the EDAMM. This double iteration Design Cycle is supported by on the one hand various Rigour Cycles whereby the knowledge bases of several streams in the literature are used to underpin the development of the knowledge artifact and on the other hand by two Relevance Cycles under the form of field exploration of three case studies and the presentation of the model for validation to apanel of experts through a Delphi Technique. For deeper detail and further elaboration on each of the cycles and its components, the reader is referred to the body and the appendices to this manuscript, yet following this process gives confidence that the current version of the EDAMM is abstracted out of considerable reality and underpinned by sound theoretical fundamentals using a rigorous development process.
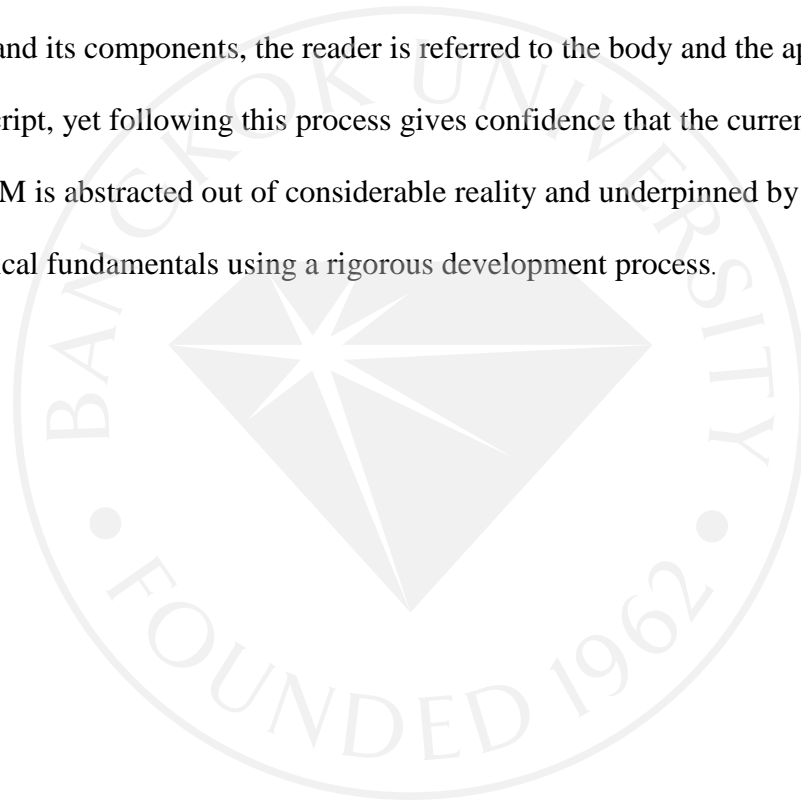
Figure 10: Design Science Research Sequence to developing EDAMMv2
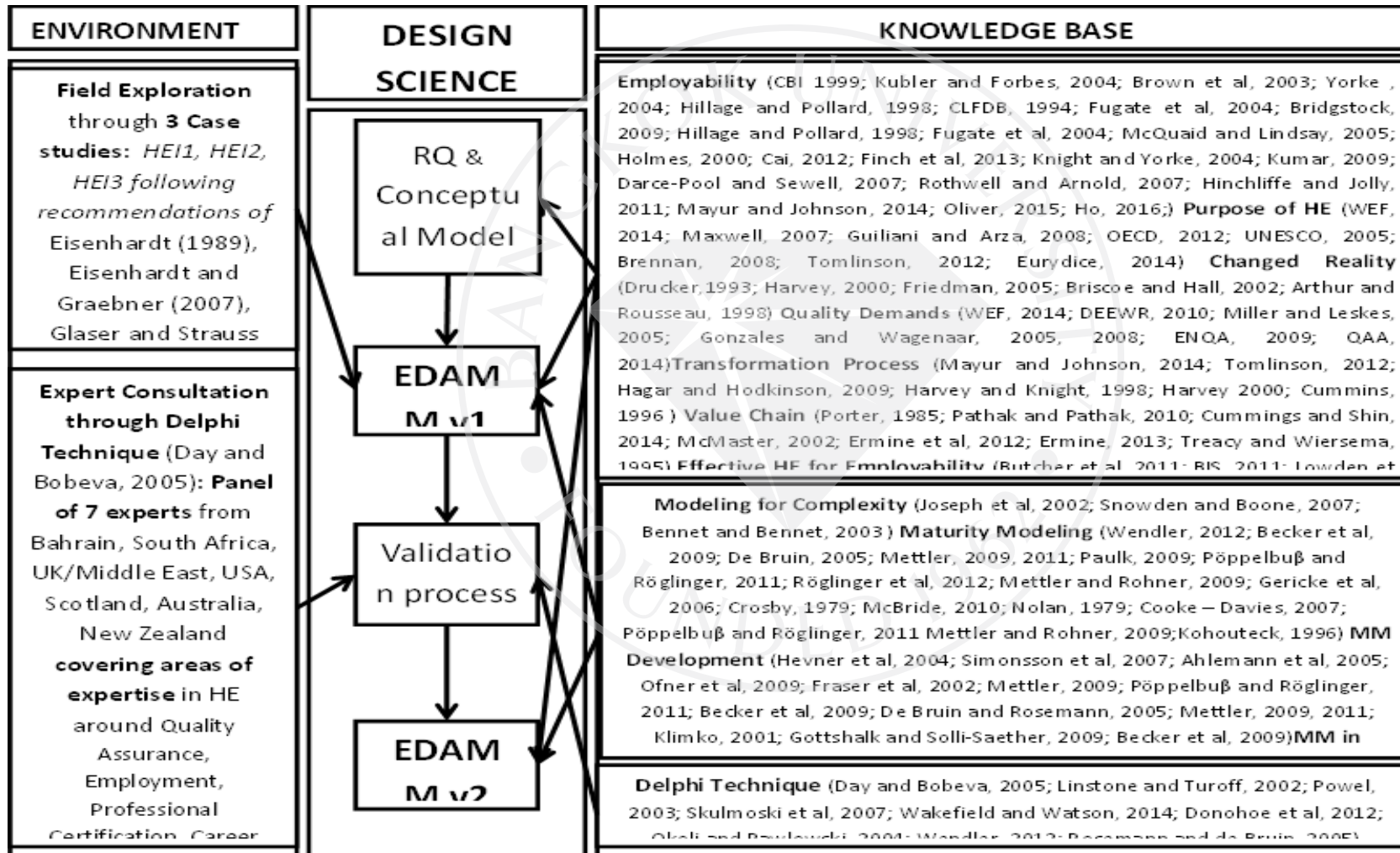
Given the context of this study, the two research questions and the pragmatist stance the researcher assumed for this study, the development of a maturity model was deemed highly appropriate for a number of reasons. Not only is the practice of modeling a way to explicate a complex reality that is proven to be highly effective but the practice of maturity modeling has been supported in the literature to be highly appropriate for process diagnosis (Pöppelbuβ and Röglinger, 2011; Wendler, 2012). Maturity modeling has been used in the context of quality control or evaluation of various types of processes in a HE context (Vande Wiele, et al, 2014) yet has up to now, to the knowledge of the researcher, has never been applied in a HEI-employability context. The structural nature of a maturity model to diagnose a HEI for its employability address, inherently leads to addressing the first research question as the identification of dimensions, criteria and gradient descriptions outline the manner in which a HEI can effectively address the goal of employability. The administration of a maturity model survey (Sample Template provided in Appendix 12) would allow for a straightforward evaluation of a HEI transformation process against a comprehensive set of descriptions of valid HEI practices for employability. In order for the collected scorings to be worthwhile, the respondents should be knowledgeable about the institution, represent key positions at various hierarchic levels of the institution and be mindful to present judgment based on reality at an institutional level. This diagnostic tool is supposed to spur conversation and exchange around ideas, opinions and views around how employability is tackled by the institution. The value of maturity modeling is not just evaluative, but also holds potential impetus for improvement, due to the progressive nature of the descriptions at gradient levels of

maturity. The development of a valid maturity model in the context therefore is contended to effectively address the second research question.

3. The Case Studies

Exhaustive literature review – the knowledge base – identified a series of general thematic areas for investigation in the field that structured the approach to data collection and analysis at three purposefully selected sites (i.e. the relevance cycle): HEI1 (Kingdom of Bahrain), HEI2 (Thailand) and HEI3 (France). This resulted in three sequentially developed case studies following the appropriate methodological approaches to build a model out of case studies (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Glaser & Strauss, 1970; Patton, 1999; Yin, 2002). The sequential approach resulted in progressively higher efficiency and effectiveness in terms of data collection and analysis as the cases progressed. This was a highly positive experience in particular considering the time constraint to collect data for the sites in Thailand and France. Particularly in Thailand, but to some extent in France, the researcher encountered some obstacles around privacy and perceived sensitivity of confidentiality pertaining access to information. The researcher is however confident that the data and information extracted to be sufficient for the presentation of a detailed enough set of case studies in order to progress to the development of the knowledge artifact as per the objective of the study. The articulation of each of the case studies was mainly driven by the findings of the interviews with key informants, yet these findings were cross-checked between different informants and through triangulation with other data sources where available i.e. institutional documentation, information in the public domain and personal observation upon site visit. The predominant value of interviews in the building of the case studies resulted out of the

fact that the address of employability as a goal was found by the institutional members to be too complicated to script in a proverbial 'manual'. This complication was not in the least because the goal competes for attention with various other institutional objectives and making its address explicit through codification is not a priority but also because the construct remains elusive to be defined. These notions support the remaining ambiguity around what employability is in a HE context as reported in the literature (Ho, 2016). Therefore, the initial assertions in this study of firstly an operationalization of employability and secondly the explication of effective and appropriate HEI processes from an employability perspective can be expected to provide illumination of this issue.

4. The Delphi Technique

After three rounds of consultation with seven experts following appropriate Delphi Technique design (Day & Bobeva, 2005), the model was validated with only minor adjustments to the first version of the model as a result of the first design iteration. The validation concerns consistent consensus among more than 70% of the panel members on the appropriateness of maturity modeling as a diagnostic approach in the context of this study, the model's structure (i.e. levels, dimension, criteria and respective gradient descriptions) and the relative importance of the model's dimensions and respective criteria. The nature of the qualitative statements confirmed the participants' understanding of maturity modeling, giving confidence in the meaningfulness of the validation exercise. In cases where the consultation did return critique or inappropriate scorings, this was in many cases moderated by highly specific indications for review upon which, as stated by the expert, the statements would be found at least appropriate.

5. The EDAMM

5.1 The Maturity Levels

The transformation process for employability has been articulated over a spectrum of five maturity levels based on the researcher's continuous evaluation and culminated understanding of the topic resulting from exhaustive literature review, peer review of the proposed levels and the case studies of this research. The progression of the five maturity levels aligns further with the potential-performance-perspective on maturity by Crosby (1979) and later on reiterated by McBride (2010). The large majority of HEI's today have their roots in the *traditional* approach to HE as we know it from the most part of the past century that were focused on knowledge acquisition through tutor-centered, transmissive approaches without consideration for knowledge practical, generic and career competencies resulting in mostly field specific technical specialist graduate profiles. Since employability has gained so much attention, it has become commonplace to see the notion appear in the public rhetoric of many HEIs whereby the articulation indicates an aspiration of the construct as a HE goal, yet without action leaves it at a merely intentional capacity. The second maturity level is therefore referred to as the *'espoused'* level. The content of employability forms a conversational piece for the organization towards its stakeholders outlining intended commitment to the goal. Yet, short of much hard evidence in its transformational process al be it due to lack of capacity, capability or willingness to implement, the HEI remains nothing beyond (well-)intentioned. The potentially deceptive objective of an organization to assume an espousing position towards employability as a pacifier to stakeholders' claims in this context can be expected to be exposed in the medium short term, yet this is not the topic of discussion in this

study. This applies equally to any other potential case where an institution underhandedly presents claims towards the realization of employability. Progression to a next maturity level would be illustrated by meaningful actions on the back of an employability-laced rhetoric, whereby the organization initiates the implementation of decisions that are geared directly towards the realization of an employability focused transformation process, typically starting with core areas of activity i.e. curriculum and career-related services. The very nature of action beyond rhetoric at this level of maturity has led to it being labeled as the *enacted* maturity level. As much as this level puts the proverbial 'money where the mouth is', the institution can be expected to cycle through exploration of several iterations of various approaches. The challenge at this stage is the resilience of the institution towards adversities of various natures and its ability to transform 'lessons learned' into effective improvement. Applying this commitment towards the inclusion of employability throughout the whole organization through a systemic approach advances the transformation process into an *integrated* mode. By means of gearing both core and support activities towards employability, the operation realizes spillover effects of bespoke good practice across all activities and thereby illuminates the value-add role of each component of the system and their complementary benefits. At this level the true tests of strategic insight and organizational buy-in surface, requiring an effective information and knowledge flow throughout the entire operation. Integration is a prerequisite for the transformation process to become highly attuned, responsive and agile in the context of current realities and future trends of the 21st Century economy and society. At this maturity level, the address to employability of the HEI in question is constantly learning from and adapting its internal to its external environment but equally driving

change in its external environment, in effect becoming role model practice for other

HEIs and attaining a status of 'first choice' perception by its primary stakeholders. This

maturity level is termed *'optimized'* whereby the organization is continuously

optimizing its position within the current knowledge economy and society.

5.2 The Dimensions and Criteria

The study has identified and validated five thematic activities that aligned very

well with the indication the literature review asserted at the outset of the case studies.

The themes that emerged were 'Curriculum', 'Leadership', 'Employability Support

Services', 'Industry Relations' and 'Quality Measurement'. These were used as

structural dimensions to the model. Further analysis of each of the themed activities

identified a total of 22 validated criteria which were used to further qualify the

dimensional activities of the model in order to arrive at an appropriate level of

granularity for description. The abstraction of the dimensions and criteria allowed then

to develop gradient descriptions over the five maturity levels assumed as per the

model which were validated by experts with minor alterations. The alterations never

changed the essence of the statements; rather, they helped to explicate important

details for clarity or added to the comprehensiveness of the statements. The

dimensions and criteria were further assigned a weighting by the experts in respect to

how they were perceived as important or indicative towards effective diagnosis. The

concluding statements around the content of the model are progressed according to

descending weighting for the five dimensions and their respective criteria.

Curricular activities concern the academic dimension of the transformation

process for which the following five criteria were found to make an account of its

composition: 'Teaching and Learning', 'Outcomes', 'Faculty', 'Curriculum

Development, and Curriculum 'Design & Course Sequence'. Given the fact that curricular activities are considered as core to the HEI's value chain (Cummings and Shin, 2014), it is only obvious that this dimension is recognized as fundamental to the transformation process for employability. It is furthermore clear that an embedding approach is asserted as far more desirable compared to a bolt-on approach which supports the contention by Gunn and Kaufmann (2011). Curricular practice is argued to be conducive to employability when it is set in a Teaching and Learning environment (i.e. delivery and assessment of the programme) that places the learner central to the learning process in appropriately introduced authentic learning situations that are collaborative, reflective and include appropriate experiential exposure. This strokes very well with the literature on this topic (Butcher et al, 2011; BIS, 2011; Lowden et al, 2011; Pegg et al, 2012; Green et al, 2013; Oliver, 2010, 2011; Mayur and Johnson, 2014; Vande Wiele et al, 2014, 2015). The curricular outcomes should give consideration to the holistic nature of employability and thereby capture the wide breadth of competencies and influencing factors that concern employability which is equally reflected in the literature (Jackson and Hancock, 2010; Oliver, 2015; Vande Wiele et al, 2014). In terms of Faculty, a hybrid of academics and practitioners allows for programmes to better reflect the realities of the 21st century. Using part time professionals gives a sense of flexibility to the institution towards aligning itself with relevant industries for the benefit of its programme(s) and its learners inclusive of network building for potentially future relationships of professional or collaborative nature. The link with industry has indeed been asserted in the literature as beneficial whereby the place of faculty in the transfer of relevant and meaningful knowledge is certainly a point that warrants attention (Pizam et al, 2013; Kolster et al, 2014).

Curriculum Design and Development concerns consideration for appropriately scaffolding content and progression structures that are conducive to the development of employability from a holistic perspective. The inclusion of experiential and authentic learning whereby attention is given to the development of a 'whole' professional (i.e. professional identity as well as laying a foundation for technical expertise) is a key point of consideration. This must be approached by a combination of embedding employability throughout the curriculum (Gunn and Kaufmann, 2011) and consideration for the multifaceted nature of employability in a holistic sense (Vande Wiele et al; 2014;O'Leary, 2013).Attention must be given to the inclusion of behavioural and attitudinal elements in a professional context alongside theoretical acumen (Fugate et al, 2004; Jackson and Hancock, 2010), career identity (Hinchliffe and Jolly, 2011), life-long learning (Nilsson, 2010) and career competencies (Kuijpers et al, 2006; Kuijpers and Scheerens, 2006). Consultation with various internal and external stakeholders (e.g. educational experts, industry, support services, career specialists, and learners) is key to assure its effectiveness, comprehensiveness and currency with current or future socio-economic trends e.g. labour market, career, and societal dynamism. Even though the literature has highlighted this already as highly important by focusing on industry for mainly technical requirements (CBI, 2011; Cai, 2012a; CIHE, 2008) this study identifies the place of consultation with external parties towards gathering of input that is more aligned with the holistic view of employability and thereby giving consideration to elements beyond the 'typical technical' requirements. This consultation needs to result in employability to take a fundamental place in the curricular development and review cycle.

The ʻLeadershipʼ theme captures the management related practices concerning the totality of the institution which breaks down into ʻOrganizational Cultureʼ, ʻInstitutional Practiceʼ, ʻDecision Makingʼ, ʻOverall Strategyʼ, ʻHR Strategyʼ and ʻInstitutional Definitionʼ. The emergence of the Leadership theme strokes with the importance of the managerial aspect in the realization of an effective HE offering is argued as a fundamental from the value chain perspective (Pathak and Pathak, 2010; Cummings and Shin, 2014). The approach to leadership by individuals in a HE context is typically effective as a dynamic mix of transformational and directive (Basham, 2012; Farhan, 2013; Lo et al, 2009), which is supported by the findings of this study highlighting the value of process but equally recognizing the need for freedom to be innovative, experiment and contextualize where appropriate. Leadership in this study is however advanced to the manner in which an organization as a whole navigates the quest for an effective employability transformation process, which is in line with the view of Shane (2001) on leadership as the embodiment of the organizationʼs meaning. For an institution to be effective in realizing the goal of employability of its learners, an institutional commitment to this goal is primordial. The daily practice of the organization must reflect the inclusion of employability throughout the organizational modus operando. This confirms the importance of organizational culture as highlighted by De Vos et al (2011). Evidently, not every activity makes the goal of employability equally explicit, yet for it to be effectively realized, the construct must be understood and embraced by all and essentially be the fabric of the HEI. Institutional practice concerns the appropriate development, identification, adoption and celebration of good practice and thereby building an institutional body of knowledge around how to effectively address employability suggesting active

consideration of organizational capacity in this regard in line with considerations by Nauta et al (2009) and Lawton (2010) with respect to recognizing the need for professional development. Managerial decision making must consider employability as a driving factor towards evaluation of organizational performance and subsequent guiding of priorities and resource allocation following the notion of Bento (2011) in how organizational leaders are in a unique position of power and potential influence to drive change and improvement. This further suggests the inclusion of employability as an inherent component of the strategic direction of the institution and the manner in which the organization engages with its stakeholders. Strategic considerations have been abundantly addressed in a HE context (Pegg et al, 2012; Green et al, 2009; Marshall et al, 2011; Oliver, 2010, 2011; Morales et al, 2011; Mayur and Johnson, 2014). The value of it as a competitive advantage and the manner in which it can drive the identity of an institution towards the way its stakeholders perceive it are both aspects that this study has identified as instrumental to the way in which employability should drive strategy. Employability is a topic that has distinct value for each of the stakeholders and therefore their specific interests need to be well understood and considered. This further includes the coordination of core and support activities in the context of the transformation for employability. This aligns back to the dual role of leaders in HE as planners and executors (Bhasam, 2012). Given the knowledge intensive nature of HE, the development and maintenance of an effective transformation process for employability relies on the availability of relevant organizational expertise. This warrants careful attention to the HEI's efforts from a human resource perspective in terms of recruitment, performance evaluation and professional development. The value of human capital and professional development

is evident for effective HE (Klenowski et al, 2006; HEA, 2011; Oliver, 2010, 2011; Mayur and Johnson, 2014) and this is no different when it comes to the context of employability. Finally even though seemingly simplistic, the manner in which employability is defined institutionally is arguably a fundamental element around which the Leadership dimensions can gravitate. Particularly in the situation where a HEI is embarking on a path of change in terms of addressing employability, the value of a clearly articulated vision and organizational understanding of the objective is a necessity in line with the literature around effective communication and implementation for change in HE (Julsuwan et al, 2011).

'Quality Measurement' concerns the thematic activities that represent the institutional approach towards evidencing the effectiveness of the transformation process for employability in a quality context inclusive of an impetus towards improvement. It is not surprising that a quality measurement notion emerges in this model since employability is often referred to as perhaps one of the most important quality measures for the graduate-product a HEI produces (Reichelt and Schreier, 2010; EUA, 2013; Eurydice, 2014). This component was found to consist of four underlying elements i.e. 'Data', 'Standard & Accreditation', 'Systems' and 'Analysis & Reporting'. In terms of the Data element, the study revealed that various sorts of data are required in order to meaningfully appreciate transformation for employability in a quality context. A comprehensive picture (and subsequent address to quality) can only be sketched when giving consideration to data around context, process and outcome in line with the intrinsic, extrinsic and actionable factors that influence employability. This aligns fully with the call in the literature for a research informed and evidence based approach to quality improvement (Pegg et al, 2012; Frazer, 2014; Lowden et al,

2011). The proposed solution of this study gives adequate attention to the concerns raised by Maher (2011) around the fact that a more consideration needs to be given to an institutional approach. Specifically in terms of data use in an employability context it responds well to the critique by Bridgstock (2009) that the sole attention given to destination data is overdue and deceptively overshadows other relevant and meaningful indicators. In line with the recommendations by Pace (2012) in context of quality evaluation of processes in general, the EDAMM calls for a systemic collection process that involves various internal and external stakeholders and whereby key metrics are identified as part of a quality control mechanism that places employability transformation central to the conception of quality. Analysis of the data needs to happen in a systematic manner at appropriate levels of the organization depending on what is being investigated yet consistently in a spirit of continuous improvement resulting in actionable information that is followed through to implementation and review. This contention addresses the point raised by Schildkamp et al (2013) around the lack of actions as a result of data use in educational environments and the inherent dangers of compliance cultures in a quality context as outline by Ehren and Swanborn (2012). Relevant Information needs to be disseminated to the appropriate stakeholders with the eye on results that are aligned with quality indicators and strategic objectives of employability nature. In line with Frazer's (2014) comment around quality expectations arising from various quarters, a response to quality (and therefore equally the institutional conception thereof) must give appropriate consideration to its relevance as per the interest of the targeted stakeholders. It is advisable that the standards against which the quality indicators are judged are informed by credible and meaningful accreditation and quality assurance bodies relevant to the discipline in

question (i.e. professional certification agencies and academic accreditation bodies alongside career experts), which shape a more contextualized idea around quality and employability making it part of the organizational culture and mindset. This assertion follows to some extent the contention by HEA (2011) around the importance of developing strong ties with accreditation agencies from a perspective of quality assurance spanning across to the inclusion of professional oriented accreditation bodies (Cardoso et al, 2014), yet bearing in mind the risks of mere following of externally outlined policy in line with Harvey and Newton (2004). The use of third party statements for endorsement of the institutional address of employability is highly effective to make more objective claims around quality and fitness for purpose. This does not only include the use of third party generated rankings and attainment of accreditation, but equally statements by industry as also suggested by McRoy & Gibbs (2009).

The potential value of industry in the development and realization of an effective employability transformation process has been somewhat explicated in the above proposed model components, yet each of the case studies reiterates the fundamental importance of engagement with this stakeholder, resulting the theme 'Industry Relations', which reflects the institutional efforts around industry engagement. The importance of industry engagement has been widely discussed in the literature (Cai, 2012a, 2012b;Wilson, 2012; Holmes, 2006; Pegg et al, 2012; Pizam et al, 2013) yet needing a comprehensive aggregating account to its influence on effective employability transformation in a HE context. Three criteria have been identified in order to break this component of the transformation process down i.e. 'Approach', 'Form of the Relation' and 'Benefit/Result for the HEI'. The Approach to

how a HEI develops and maintains meaningful relationships with industry is of primordial importance as was also asserted by Pizam et al (2013) and Wilson (2012). A systematic approach that establishes an effective initiation and development mechanism towards industry relations and that effectively connects the key beneficiary parties is fundamental to its success so that the relations can be leveraged optimally and managed in a sustainable manner, which has been equally asserted by Wilson (2012). The form of the relationship pertains the position of the parties involved whereby each of the case studies unanimously championed the need for win-win situations as fundamental to sustainable relations. This study highlights the value of considering industry as partners in the realization of the transformation process whereby the relationship is collaborative and synergistic across various aspects of the transformation process. Employability has the potential to be a topic of knowledge exchange between HEIs and Industry (Vande Wiele et al, 2015b). Benefits of industry engagement are presented in varying levels of complexity ranging from straightforward input through participation in the realization process all the way to adoption of the HEI output. The ultimate result is for the HEI to become the partner of choice in relevant industries whereby it can leverage this position towards securing highly effective inputs of varying nature towards further strengthening its position in the HE landscape and consequently the profile of its graduates.

Employability Support Services refers to the transformational activities that are directly career oriented yet not necessarily traditionally curricular in nature in line with the literature around career support in a HE context (Gysbers and Henderson,2005; Jarvis and Keeley,2003; Mittendorff,2010; Careers New Zealand, 2012; Kuijpers et al, 2011). To explicate the finer detail of this component of the

transformation process, the study has identified 'Student Engagement', 'Organization & Orchestration', 'Staff' and 'Bridge to Labour Market'. The level to which learners are engaged with the Employability Support Services is reported as instrumental to the contribution of this component, where it has often been reported as challenging to make learners engage as earlier highlighted in the literature (Ludwikowski et al, 2009; Redmond, 2006; Stevenson and Clegg, 2011). The phenomenon identified by Cardoso et al (2014) was confirmed in the study whereby engagement typically only picks up near the end of completing the qualification. A compulsory inclusion of engagement with support services as a formal part of the transformation process (typically credit bearing) is an option in address of the need for an early start as argued by Bridgstock (2009), yet for the engagement to be effective it still requires the realization of its meaningfulness by the learner. As much as the notion that these support activities help the development of career identity as outlined in the literature (Meijers et al, 2013) the fundamental willingness to be transformed as argued by (Mayur and Johnson, 2014) is an important point to be noted in context of engagement with components of the transformation process that are of extra- or co-curricular nature. A carefully orchestrated and organized set of activities is further argued to aid in the building of an employability oriented value proposition to learners and triggering a thought process in the learner that includes employability. This notion is supported by the literature (Gunn and Kaufmann, 2011; Nicoletti and Berthoud, 2010; Tien, 2007) which argues for more attention towards the realization of career services in HEIs. Similarly to the Faculty and HR Strategy criteria as discussed in respectively the curricular and leadership activities, the value of human resource is also of value in this component. Various knowledge bases are desirable for effective delivery of the

employability support services i.e. career counseling, recruitment practices, career profiling, cv writing, interview techniques, curricular activities and transferable competencies. Schiersman et al (2012) rightly point at the need for professional development for individuals involved in career related services. For the transformation process to be integrated with curriculum, it is arguably logical to draw the need for such professional development through to Faculty in order to be able to contextualize their content delivery in a career context where appropriate. A final criterion of effective Employability Support Services relates back to how much they increase the potential exposure of the learner to industry in both learning or career related opportunities. This addresses the critique of Amundson et al (2010) of career services being nothing more than job matching mechanisms, since its proposed provision builds a bridge to the labour market that is integrated throughout the transformation process and not merely a feeder mechanism at its exit point. This conducive capacity to the labour market contributes in a secondary manner to potentially fulfilling a pivotal role in the employability related knowledge flow in the organization. This emerged as a nascent or evolving role by employability support services in each of the case studies.

5.3 The Weightings

As far as the weighting are concerned, they give a sense of prioritization of what needs to be tackled first or given most attention if a HEI is reviewing its address to employability. It can be concluded that a HEI would benefit from giving priority to curricular activities and the management of the transformation process at an institutional level. This is intuitively logical since the curriculum of a HEI is often seen as the core of what it offers its learners. A holistic approach to employability

from a management perspective is fundamental if the organization wishes to truly

place employability at the heart of its entire operation. This concerns not only the

structures it has in place, but also the manner in which the organization embraces

employability as to its purpose by all its internal stakeholders. Since one cannot

manage what one does not measure, an appropriate quality measurement system must

be in place to complement institutional efforts. Only through understanding the

manner in which the institution addresses the employability goal can it devise plans

moving forward and tackle the (up to now) paralyzing elusiveness of the construct.

Once these three general dimensions of the transformation process are addressed

properly, the inclusion of industry relations and employability services will truly show

their complementing benefit whereby it injects higher meaningfulness and purpose for

the learner in an employability context.

5.4 Overarching Conclusion

As a final closing statement to this study, the EDAMM can be argued as

having been conceived out of an exhaustive body of highly relevant literature, various

contexts of meaningful realities and a methodological approach that is highly

appropriate for its intended purpose. The dimensions and their respective criteria

present a highly comprehensive account of how a HEI can address employability that

gives consideration to employability from a holistic perspective, places the learner

central to the developmental process and involves a variety of highly relevant

stakeholders as active participants in the realization of the value offering. The outline

of the process at various levels of maturity, illustrates a gradient spectrum of

sophistication ranging from the traditional approach as was the going standard during

most of the last century through espousing of the employability goal, taking action

towards its realization and deploying an institution wide orchestrated approach to ultimately managing a transformation process that is highly agile and responsive to the needs of the 21st Century knowledge world. The model provides a straightforward mechanism to diagnose the vitals of a HEI's transformation process and holds inherent value for outlining pathways towards improvement. Cognizant of the contextual nature of employability as elaborately addressed in this work, the EDAMM is arguably fit to address this, since the manner in which the process has been described is rooted in carefully abstracted practices found in various settings.

6. Contributions

At its outset, the study aimed to make a series of contributions i.e. illuminating the up to now remaining opacity around the construct of employability; strengthening the methodological approach of Design Science and Delphi Technique to respectively produce and validate knowledge artifacts, in particular Maturity Models; the development and qualifying of a comprehensive set of HE activities as an institutional process towards transformation for employability; and finally the introduction of maturity modeling as a diagnostic tool in the context of employability and purposeful HE.

The aggregation of multiple notions, models and frameworks on employability as part of the exhaustive literature review undertaken for this study has resulted in a highly holistic operationalization of employability that cannot be conceived in absence of its three influencing factors. The dual conception of the way employability is being presented in this study can be expected to bring clarity in particular to how a HEI can attempt to address this construct. This study hopes in the least to have presented an extensive theoretical ground of the construct for researchers and

practitioners in the context to advance their understanding and support an effective placement of employability in their intellectual and practical endeavors.

The methodological approach this this study has certainly provided support for the use of Design Science Research and the Delphi Technique towards respectively the development and validation of a knowledge artifact i.e. the EDAMM. The methodological approach has been carefully outlined and supported with all relevant aids in order for other researchers to easily replicate this study. The approach to this study was furthermore subjected to a double blind peer review process resulting in an acceptance for presentation at an international academic conference on education for the 21st Century and selection of the paper to be formally published as part of a post conference book project published by Springer. It is hoped that this sparks further interest and support for the application of both methodological approaches in comparable research contexts.

As part of the development of the model, this research has identified, outlined and qualified a comprehensive set of HE activities that can be used to address employability at an institutional wide level. By this account the study expects to provide meaningful insight to researchers or practitioners by providing what is in essence the blue print for an institutional framework of how employability can be effectively tackled in a HE context in an organized manner. This study acknowledges the stance of some literature sources that is skeptical around a 'one-model-fits-all' approach HE for employability (CBI, 2011; Oliver, 2010, 2011; BIS, 2011) and agrees to contextual nature of the construct of employability, however, this study is hoped to alleviate the danger of such skepticism becoming an excuse to not explore or adopt

good practice. This model can support HE activities that range from strategic planning and policy development through to T&L and operational support for employability.

As a final contribution, the proposed EDAMM introduces the practice of maturity modeling in the context of employability and HE by means of a validated diagnostic tool. Following the categorization of Harvey and Newton (2004) around evaluation of HE, the EDAMM can be labeled as an audit tool. It is hoped that the model will be adopted by HEIs for self-evaluation that can be third party assisted in order to strengthen its understanding of its currents state of affairs around how it addresses employability, allow for the outlining of actions for improvement and enhance the institution's ability to articulate its efforts in a quality context. The third party assistance would concern a facilitator of the administration process and particularly the discussion on the results in order to come to a consensual maturity score throughout the institution and (arguably more beneficial) a pathway forward towards improvement. The EDAMM hereby addresses the issue raised by Schildkamp et al (2013) that in a quality evaluation context, 'improvement' as a purpose is often treated secondary to accountability and compliance. The very nature of diagnosis through maturity modeling almost naturally opens considerations for improvement since a maturity model is a knowledge artifact that is positioned between a model strictu sensu and a method (Mettler and Rohner, 2009). The EDAMM further aspires to contribute to further meaningful discussion around the place of employability in purposeful HE and the researcher hopes that the perspective of this study on the construct can put some of the ambiguity and subsequent misconceptions around employability to rest.

7. Limitations and Future Research

Even though this study has been developed following sound methodological practice that was argued as most appropriate for the purpose of this study, to close the reporting on this study, this section will address the limitations of the study alongside indications for future research.

First and foremost, since the study is predominantly qualitative in nature, there is no quantitative evidence of causal nature as per the degree of effectiveness of the practices highlighted in the process. The cross case analysis and the support of the literature confirm however that the practices proposed are conducive to employability. The presentation of weightings for each of the components reflective of their relative importance as diagnostic indicators is only suggestive as per the opinion of experts. Future research could investigate to what extent the identified indicators are predictive of favorable outcome. The contextual nature of the topic however would require extensive consideration for various factors in order to translate this in mathematical equation that would capture all influencing factors.

A second limitation to the study is the absence of testing of the model in this study. Testing was from the get go a consideration outside the scope of this study, however, it is certainly something that needs to be addressed in future research in order to further advance the model and strengthen its claim of applicability. The goal of this study however was to present a model of validated structure and content in addition to a statement of consensus among experts around its application as a valid method for diagnosis.

As per the case studies used for this study, some limiting considerations can be highlighted. A higher number and more varied type of institutions may provide

additional insights in the manner in which the transformation process for employability comes to pass. The current number of three case studies may present some critique around the ability to generalize its content towards the HE landscape. Even though the study has attempted to offset this limitation by means of choosing case studies that are set in considerably different socio-cultural contexts, the inclusion of an exhaustive set of highly relevant literature as part of the knowledge base to construct the model and the subjection of various aspects of the model to extensive expert scrutiny, the limitation is worthy of recognition and opens opportunity for future research.

Two other limitations related to the case study resulted from more practical realities. Information was not equally freely accessible or exhaustively available across each of the case studies due to various reasons such as time constraints for data collection, privacy concerns and confidentiality sensitivity around documentation, and the ability of the researcher to use data sources in the English language only. At the risk of information overload, the question can be raised whether increased access to data sources (i.e. more sources or deeper access) would have lead to a more in depth understanding of the process and would have ultimately resulted in a ˈbetterˈ model. As indicated before, the primarily reliance on findings from interviews, with control mechanisms for reliability through cross checking and triangulation, must be highlighted. The question could also be raised whether investigation in France and Thailand would have been substantially more effective if it was conducted in respectively French and Thai. Feedback from the expert consultation and anecdotal evidence from peer reviewers of the model give however confidence that the current

level of data use has resulted in an adequate level of depth and understanding and the production of an appropriate and comprehensive transformation process outline.

A standing limitation to a research approach that involves the case study method is the raising of reservations around the objectivity of the researcher as the primary data collection tool and analysis. This was addressed in this study by means of engaging with various externals to the research project for evaluative checks of process and content. The researcher exercised constant mindfulness and reflection around the place of the researcher in the project. For each of the data collection instruments the researcher deployed pilot testing using externals to the project inclusive of a clear discussion around the approach and its purpose. At the state of coding the transcribed interviews the researcher engaged in the use of inter-coder checking for reliability. At regular intervals during the study the researcher consulted with his academic supervisors in addition to yearly progress presentations for various validation panels at Télécom Ecole de Management and a proposal defense at Bangkok University. Most of the components of the study have been subjected to formal blind peer review as part of presentation and publication proposals in academic contexts. This concerned the approach to the study, the first version of the model and the validation approach. A final mechanism to warrant for the effectiveness of the researcher in presenting a scientifically sound piece of work is the use of experts for consultation towards validation of the model, which included a typically in depth discussion around the approach to the study in the briefing session at the point of securing the experts participation.

Limitations related to the expert consultation by means of the Delphi Technique were identified around the administration and the number of participants.

Even though practically the most appropriate course of action, electronic administration of the consultation may have benefited from a follow-up face to face meeting with each of the participants at the end of each round in order to further clarify some of the reservations or probe for additional considerations around the tasks and the outcomes. The time constraint however did not allow for this additional approach. A face to face follow up interview may be an additional piece of data collection that can be done should the researcher chose to advance the presentation of the results of the Delphi in an academic publication beyond this manuscript. Secondly, the number of panelists, even though meeting the minimum required as stated in the literature (Day and Bobeva, 2005), is arguably a point that could warrant questions around whether a higher number of participants would have yielded different results. To offset the lower number of participants, a consensus criterion of >70% was used compared to a minimum consensus criterion of >51% as stated in the literature (Linstone & Turoff, 2002).

Finally, as much as the model shows a relatively high level of detail in the different streams of activities that make up the dimension of the model, further investigation towards the construction of tools that can help the maturity transition would benefit the model as they would complement the potential of this model to outline pathways for improvement. As part of future research endeavors, such effort would be worthwhile and meaningful in order to advance the use and value of the model as a practical contribution to the field.

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APPENDICES
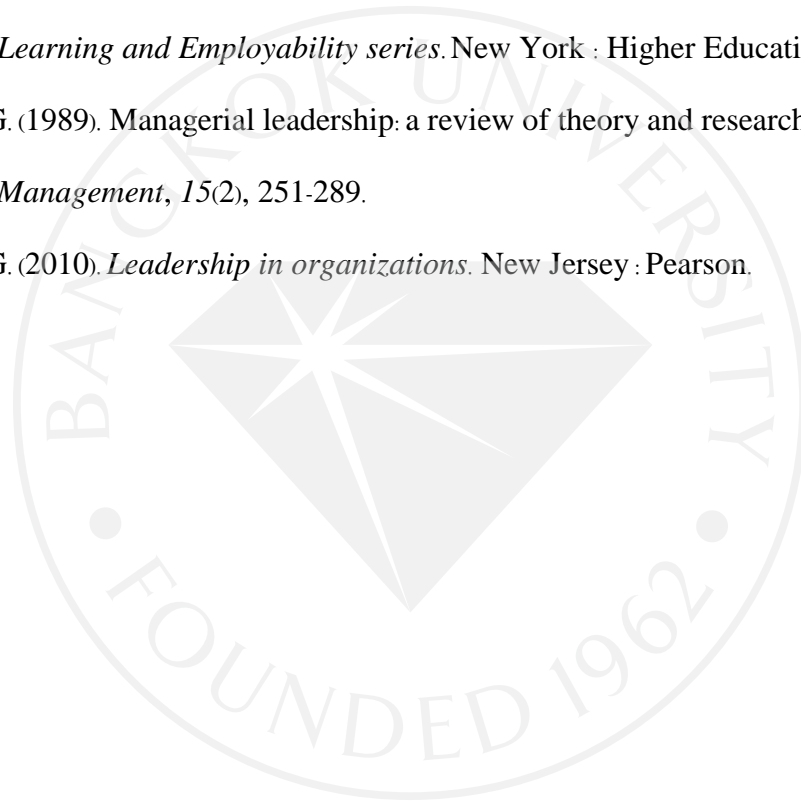
APPENDIX 1 The Employability Development and Assessment Maturity Model (EDAMM)

The EDAMM is designed to be used as a diagnostic tool for Higher Education Institutions to be able to evaluate its current address to employability and identify possible pathways forward. The model operates as a performance matrix that outlines various levels of sophistication (read: maturity levels) of how the HEIs can address employability. The address has been approached as a process that has been broken down into components based on its vital activities (read: dimensions of the model) and their respective key indicators (read: criteria). The cascading breakdown is used in order to ease the evaluation of the process by giving the evaluator clear focus on what to be looking for at an appropriate level of granularity. This has resulted in the EDAMM structure (Figure A-22) of 5 maturity levels, 5 dimension and 22 criteria.

Figure A-22 Structure EDAMMv2

Maturity Levels		Process Dimensions																			
		Curriculum					Leadership						Quality Measurement				Industry Relations			Employability Support Services		
	5. Optimized																					
	4. Integrated																					
	3. Enacted																					
	2. Espoused																					
	1. Traditional	T&L	Outcomes	Faculty	Curriculum Development	Design & Course Sequence	Organizational Culture	Institutional Practice	Decision making	Overall Strategy	HR Strategy	Institutional Definition	Data	Standard & Accreditation	Systems	Analysis & Reporting	Approach	Form of relation	Result / Benefit for the HEI	Student Engagement	Organization & Orchestration	Staff	Bridge to labour market
		Dimension Respective Criteria																				

The model qualifies the process maturity by describing its various components across the gradient of maturity levels which have been labeled in ascending maturity as: Traditional, Espoused, Enacted, Integrated and Optimized. The remainder of this document presents the gradient descriptions across the maturity levels at various grades of granularity:

Section 1 outlines the gradient descriptions of the process at Institutional level.

Section 2 outlines the gradient descriptions of the process at Dimensional level.

Section 3 outlines the gradient descriptions of the process at Criteria level.

1. Institutional Process Maturity Level Descriptions

Label	Description
Traditional	The HEI focuses on transfer of theoretical knowledge through traditional learning environments, supporting services are underdeveloped and passive, industry relations are non-existent or do not impact the learners' employability, quality is addressed simplistically with minimal improvement plans and leadership does not consider employability a purposeful priority.
Espoused	The HEI espouses the idea of creating employable graduates conversely but lacks developmental ability and commitment to realization of curricular and support practices deliberately geared towards employability. A strategy around the topic is lacking or lacks commitment towards implementation. Organizational discourse and documentation includes the construct but operationally this is limited to

Label	Description
Espoused	pockets of ad hoc activity at best without any sense of sustainability. Industry relations are cosmetic in nature and its impact on the transformation process does not go beyond promotional discourse and superficial input to inform the HE offering. Basic quality measurement systems are being explored or in pilot phase for part of the institution. Leadership endorses the idea of employability at conceptual level but does not prioritize its support towards development and implementation of clear action plans.
Enacted	The HEI acts on the idea of realizing employability through a formal plan of strategic nature that outlines deliberate and purposeful curricular and support activities on the basis of researched effective practice. The institution shows formal commitment to the realization of employability. Employability is institutionally defined, is considered part of the organizational culture but its realization happens in siloed approaches with minimal interaction between different departments (administrative and academic or core and support) that does not go beyond reporting on performance to senior management. Priority is given to the formal curriculum; however support services are actively engaged with stakeholders in an organized manner with priority going to student support. Industry is actively involved in both curricular and support activities at various levels of invasiveness. Systematic quality measurement systems are in place. Leadership strongly endorses and supports ideas on employability and formally includes it as a decision making criteria where applicable.

Label	Description
Integrated	Good practice around Employability and HE is standard and forms part of the organizational fabric of the HEI. There is a dedicated strategic address around employability that consists of a clearly articulated expectation of participants in the process. There is a formally established collaborative relationship between curriculum, support services, industry and measurement. Curricular practices are highly conducive to employability and interface systematically with support services and industry in terms of design, development, delivery and assessment. Quality control reviews the employability transformation process and findings around effective practice and possible improvements are disseminated to the relevant parties in a systematic manner as part of the institutional quality assurance processes. Leadership puts employability central to its mandate, strategy and decision making by driving best practice development through institutional research and supporting scholarship.
Optimized	The HEI has highly effective practices in place to tackle employability throughout the whole institution, sets the benchmark for the transformation process to employable graduates in its field and acts as a role model for other HEI's. All relevant departments provide regular input to one another for informed action through an informed information and knowledge sharing mechanism building on a continuously growing body of institutional research. The institution continuously fine tunes its practices through strong synergetic interaction of and engagement with internal and external stakeholders. The transformation process is highly agile and operates on the basis of future

Label	Description
Optimized	labour market intelligence, institutional research and integration of cutting edge industry practice in its curricular activities. Support services and industry relations are highly effective in interfacing between the core activity of the HEI and the relevant external stakeholders to enable relevant knowledge and information flows. The institution's impact on and network in industry and society is highly meaningful and reputable, making the HEI the partner of first choice for all stakeholders.

2. Dimensional Maturity Level Descriptions

Dimension: Curriculum

Traditional	Espoused	Enacted	Integrated	Optimized
A theory dense curriculum that is delivered and developed by pure academics in the field through tutor centered	The curriculum is for its majority focused on theoretical knowledge with some application through low level	The curriculum is student centered and focused on knowledge application. It is realized through learning experiences across a gradient of authenticity	With employability as its central tenet, a wide variety of internal and external stakeholders are involved into the design,	The curriculum evidences best practice and effectiveness in terms of design, development and delivery for employability towards a highly effective approach of

Traditional	Espoused	Enacted	Integrated	Optimized
mechanisms that focus on theory acquisition. Program design and development does not consider employability factors beyond theoretical knowledge.	authentic learning approaches linked to some general abilities in the field of study. The curriculum is generally informed by the external environment and designed, delivered and controlled by academics with minor industry experience.	by faculty members with considerable industry experience teaching in the later part of the program. The programs are informed by field specific labor market requirements resulting in curriculum that is oriented towards the development of field or industry specific competencies.	development and delivery of the curriculum that aspires to instill general, field specific and career competencies in its learners. The faculty involved in the development and delivery of the program has strong currency with industry practice.	developing life-long learners. The learning environment is transformational and consistently produces well balanced individuals with a holistic set of competencies relevant for the economic and societal realities of today and the future. The curriculum is continuously re-aligned with industry and delivered by a hybrid faculty of cutting edge practitioners/educators with a good sense of career guidance.

Dimension: Leadership

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have a formally articulated strategic place in the core or supporting activities of the HEI. It is not part of the organizational culture and employability is not seen as a potential competitive advantage.	Employability is recognized as a potential competitive advantage but the institution lacks implementation of strategic discourse. Relevant organizational structures and processes exist but are inactive or ineffective. The organizational culture does not capture the concept of employability beyond semantic rhetoric. Good practice around	Employability is a formal part of the strategic plan to strengthen the institution's competitiveness and its fit for purpose. The organizational culture reflects commitment and enthusiasm around employability development in pockets of curricular activities, but lacks organization wide buy in. The organization shows commitment	Employability is viewed through a holistic lens and considered a strategic priority. It is institutionally contextualized through the development of action plans for each relevant department whereby decision making is highly driven by cascading employability objectives. Employability is truly part of the organizational culture and a central tenet in	Every organizational activity gravitates towards employability development which is considered as the primary purpose of the HEI. The organization has staffed its core and primary supporting activities around employability development with people who are well experienced in

Traditional	Espoused	Enacted	Integrated	Optimized
	employability is suggested but experiences difficulty in terms of uptake or adoption at institutional level.	towards employability as a formal priority through endorsing an institutional approach to employability based on best practice, designated structures and relevant associations with external entities.	many activities involving internal and external stakeholders. Good practice in context of the construct is considered the norm and best practice is institutionally celebrated.	realizing employability through HE, resulting in employability being woven into the organizational fabric. The institution drives the cutting edge around employability development through incremental and radical innovation.

Dimension: Quality Measurement

Traditional	Espoused	Enacted	Integrated	Optimized
Quality control around employability is not considered important or beneficial for improvement. It is approached from a compliance perspective using simplistic destination data for reporting purposes.	Quality considerations around employability are predominantly considered by articulating espoused quality against general requirements of the labor market. This is primarily justified through destination data and very general, highly sematic measures in terms of the developmental	Quality in terms of the process is given attention through the identification of measures for quality control. Employability is actively included in the quality management of the curricular practices alongside with some minor consideration that is given to the monitoring of support activities. Analysis and reporting is happening in various departments in	Quality around employability development is managed throughout the transformation process in a holistic manner. Detailed data from a comprehensive set of stakeholders is collected and analyzed in an institutionalized systematic way towards monitoring both process and outputs of all relevant activities. Reporting results in action plans for quality improvement that fit in an	The institution continuously monitors the transformation process for its development of employability against a highly up to date objective of industry and societal measures inclusive of professional accreditation in both industry and educational context. Using highly detailed and comprehensive data, it

Traditional	Espoused	Enacted	Integrated	Optimized
	process that is in place. Employability is included in institutional quality discourse but is only sporadically used as a measure or driver for improvement.	isolation from one another and lacks a systematic approach and institutionalized mechanism to make it feed into a larger plan for improvement.	institutional quality improvement plan.	continuously fine-tunes its process and is highly responsive and agile towards economic and societal dynamism. The institution is considered as a high level benchmark in terms of HE and employability.

Dimension: Industry Relations

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal or systematic mechanism to the development of Industry relationships because it is not valued as pertinent towards building employability of the graduates. Existing relationships are passive and superficial, providing few insights in the labor market.	Industry relations develop organically at departmental level rather than systematically. The relationships are mainly conversational in nature and serve primarily the institutional rhetoric and PR purposes. The connection with industry only limitedly impacts the approach of the HEI to the development of its overall value offering.	There is an institutional department for industry relations to support the departmental efforts. The relationship is developed as a partnership of information exchange to inform for a meaningful HE value offering with occasionally highly invasive collaboration.	The institution uses a basic relationship management system resulting in synergistic relationships with clear goals and deliverables. Industry is highly involved in strategic and operational aspects of curricular and support activities.	The institution uses a sophisticated knowledge exchange system to manage its industry relations in order to advance a sustained mutually beneficial relationship. Industry becomes the demanding party for collaboration and partnerships, resulting in a leveraged network towards securing support, the creation of employability-conducive opportunities and a highly competitive profile in the HE landscape.

Dimension: Employability Support Services

Traditional	Espoused	Enacted	Integrated	Optimized
Employability support services are very scarce, understaffed, poorly communicated and typically limited to general and superficial ad hoc activities around careers. Engagement of internal or external stakeholders is low to non-existent and the services contribute at best only minimally to	Employability support services consist of a series of activities particularly oriented towards employment upon graduation. The activities are not systematically organized or institutionally orchestrated. Engagement of learners is overall limited and the results of the efforts are not overly	The institution has a systematic, formally planned approach to a variety of activities supporting employability in place that is realized by a formally trained department. Involvement of external stakeholders (participation or information exchange) is the norm and results in meaningful opportunities for learners to enhance their employability. Engagement of learners is most	Employability support activities are governed by qualified experts in career services and treated as an integral part of the institutional transformation process for employability. Services are developed and delivered through high involvement of relevant internal and external stakeholders. Engagement of learners is high and the results around career management	Employability support activities are highly aligned and responsive to the economic and societal realities and form part of the knowledge body of the organization around developing employability in the learners. The staff consists of career practitioners who are highly current with recruitment and talent

Traditional	Espoused	Enacted	Integrated	Optimized
the development of employability.	significant.	common among seniors.	skills uptake, opportunities for experience and graduate employment are significant.	management practices in industry. Engagement of learners is very high and includes co-creation of service value. The results are highly significant in terms of developing very impactful career management skills in learners and facilitating the securing of highly meaningful employment opportunities.

Criteria Maturity Level Descriptions

Dimension: Curriculum (CU)

CU Criteria: Teaching and Learning

Traditional	Espoused	Enacted	Integrated	Optimized
Traditional tutor centered T&L approach with a focus on transferring field specific theoretical knowledge. Assessment is mostly focused on regurgitation of theory through traditional assessment	T&L approach is articulated to be student centered in nature inclusive of some broad practices that are conducive to employability. T&L practice that focuses on KSAO's is promoted yet only limitedly practiced across all its facets due to a consistent lack organizational capability and commitment.	T&L approach is clearly outlined in relation to the development of employability by committing to student centered, developmental T&L practices that are conducive to employability. Employability development is given specific attention in course documentation and guides the faculty's action as learning facilitators. Curriculum delivery is focused	T&L practice is highly informed by employability-conducive principles of authenticity, student centeredness, collaborative learning, reflection and activity orientation. Such principles are consistently and systematically applied with contextual consideration and form the fundamental T&L DNA of the institution. The delivery is	T&L practice is highly conducive to employability and operates at the cutting edge of pedagogy and andragogy. The practice is often referred to as a benchmark for national and international practice in HE as it is informed by and continuously refined for the changing nature of the learners and its context. The results of the total battery of

Traditional	Espoused	Enacted	Integrated	Optimized
processes. Assessment is done by a theory specialist.	T&L practice is not formally informed by employability-conducive methods or techniques. Employability can be argued to indirectly form part of the assessment criteria in a very general sense at best. This is typically linked to an internship requirement for graduation. Other course assessment is argued to address employability through the	on application of knowledge and includes practices of experiential and work integrated learning. Throughout the programme assessment consistently makes direct and indirect links to employability elements in alignment with the institutional definition and framework of employability. Assessment is generally based on the evaluation of evidenced outputs of students in context of their	transformational and integrates internal and externally relevant partners in terms of employability on a regular basis (e.g. employers, career center, industry relations, ...) T&L practice includes a sense of career guidance as part of the developmental approach of early professionals. Assessments are highly authentic throughout the program in alignment with the reality of the future field of employment. Industry expectations form a	assessments are highly indicative of the employability of the evaluated learner. Assessment practice is constantly refined and fine-tuned against the changing requirements of the labour market and future trends of economic and societal development.

Traditional	Espoused	Enacted	Integrated	Optimized
	mapping of the learning outcomes with little specific employability measurement in place and is mainly focused on evidencing 'knowing' theory.	field of study. The level of assessment authenticity generally increases as the student progresses through the program.	strong part of the assessment of students' work, inclusive of a formal statement around general employability at the end of the programme. Assessment involves a variety of stakeholders including peers.	

CU Criteria: Outcomes

Traditional	Espoused	Enacted	Integrated	Optimized
Course and programme outcomes focus on theory. The profile of the graduate reflects a theoretical specialist in the field with little or no consideration of practical skill or ability to apply knowledge.	Course and programme outcomes strongly reflect knowing but include some concepts of doing. Knowledge acquisition is given priority over knowledge application in most cases. The profile of the graduate reflects a theoretical specialist with some ability to apply the	Graduate profiles are competency oriented and have explicit statements on employability in terms of required KSAO's in the field of study. Programme and course outcomes are focused on operating as a destination level professional in the field with some wider organizational acumen. Outcomes	Even though Industry standards and expectations are prioritized in the development of graduate profiles there is a sense of societal values woven within the corporate context. The programme aims to transform learners into professionals through specific outcomes in relation to knowing, doing and being. The programme outputs graduates that are in high demand in their	The programme aims to produce well balanced, confident, focused and confident professionals with strong field specific expertise, a variety of work related experience and a strong sense of personal and professional identity. The profile of the graduate prioritizes personal dispositions around proactivity and lifelong learning alongside highly relevant industry specific and transferable competencies. Graduates are the first choice of employers

Traditional	Espoused	Enacted	Integrated	Optimized
	knowledge in low level authentic environments.	generally cover field specific notions around knowing, doing and being.	field. but also prove to have a positive disposition towards lifelong learning and career management.	and typically are offered meaningful positions prior to graduation. Track records of alumni evidence a considerable proportion of high achievers in professional and societal context.

CU Criteria: Faculty

Traditional	Espoused	Enacted	Integrated	Optimized
Pure Academics	Some of the faculty has industry experience but the majority of the faculty consists of academics.	The faculty teaching at the higher level courses consists of individuals with overall relevant industry experience.	Faculty consists of a balance between academics that are active in industry (e.g. applied research or consulting) and contracted industry professionals. Faculty members teaching in majors are professionally certified in their field.	The faculty members are of a hybrid academic/industry nature with very strong destination field acumen and highly current with the state of the art in industry and professional practice and strong awareness of both local and global economic and societal environments. The faculty has received basic training in career counseling and career management.

CU Criteria: Curriculum Development

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum Development is governed by field specific academic and teaching team according to traditional academic principles of content density and traditional learning environments and methods. Review considers academic principles in compliance with academic	Course development attempts to address employability by mostly low level authentic approaches (e.g. case studies or guest speakers). Course documentation does not make consistent and explicit reference to employability related points of attention. Course review includes basic qualifying	Employability development is a guiding consideration for course development and re-development in terms of content selection and materials and methods in support of delivery and assessment. This is strongly guided by graduate destination and destination level job requirements. Facilitating the access to an	Course development is highly guided by industry practice and career requirements through consultation with internal and external stakeholders. The courses largely integrate work specific topics and applications as well as career notions in its content. The learner's development of relevant field specific, general	Courses are developed with the future careers of the learners in mind and consist of content and learning environments that prepare the learners for the current and future workplace, labour market, economy and society. Each course has a clear address towards career and lifelong learning alongside the field specific competencies and soft skills it is addressing. Each course has been carefully constructed with a clear purpose

Traditional	Espoused	Enacted	Integrated	Optimized
quality assurance mechanisms with little or no consideration for employability factors. Content is selected by teaching faculty.	factors around employability by mapping course learning outcomes against employability in terms of required KSAO's but is mainly focused on field specific knowledge and some application thereof.	authentic learning environment is the ultimate aim. Lower level courses recognize the importance of theoretical fundamentals and knowledge acquisition in context of the field of study, where higher level courses are increasingly complex and developed in a problem-solution context. Course development and review gives consideration to the course's place in the employability development process.	and career related competencies in learners is addressed in the programme through a scaffolding approach. Course and curriculum development includes cross departmental projects where possible and appropriate. Course review includes consultation with support services for relevant components.	in the larger transformation process the HEI has in place. Each course is continuously reviewed and informed by best contextualized best practices, data and expectations of the destinations of the graduates. Courses are developed as transformative learning experiences. Course review considers a large variety of external factors alongside alignment with internal adjustments that are made in other courses or programmes where relevant.

CU Criteria*: Design and Course Sequence*

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum design is done in a traditional way by means of a selection of credit bearing courses that comprise in majority of theoretical and fundamental field specific content sequenced according to increasing field specialty. Design is	Curriculum design follows a traditional approach by means of a selected sequence of credit bearing courses inclusive of an internship. The bulk of the courses are set up to include application of knowledge through mainly low level authenticity. Programme learning outcomes are overall related to general abilities within the field of study. Career	The institutional approach to curriculum design considers employability as a principal guide for consideration of T&L approach, types of courses, course sequencing and credit allocation. Curriculum design is guided by requirements of the labour market, is	Employability is the central tenet around which the curriculum is being designed as a result of systematic consultation with a variety of internal and external stakeholders. Institutionally standardized approaches are of the nature of internships, work integrated and problem based learning, apprenticeships, experiential development	The curriculum is built around the presently emerging and future labour market trends through a course structure that is highly responsive to change and enormously impactful around preparing the learner to become a value adding individual in society. Learners are exposed to both leading trends and high-end niche practice from around the world. The curriculum is co-designed with a variety of relevant stakeholders such as

Traditional	Espoused	Enacted	Integrated	Optimized
overned by an institutional curriculum unit in collaboration with field specific academics. Changes in course or programme design do not formally consider employability related aspects.	pathways are generally identified. Curriculum design is governed by a institutional curriculum unit and realized in collaboration with primarily field specific academic faculty but inclusive of some consideration of environmental information or external stakeholders in an employability context. Changes in course or programme design consider employability related aspects in a very general and broad manner at best.	competency oriented and aims for progressively higher levels of authenticity throughout the programme. Review of the curriculum includes employability as a primary qualifying factor from a faculty perspective and to some extent from a student perspective.	etc. Curriculum evaluation and review includes internal and external stakeholders' input and requires formal industry endorsement of some kind before going ahead. Institution wide, developmental activities offered by support services are included as elective or mandatory credit bearing components of the programme where appropriate.	leading employers, high potential startups, recruitment agencies, career experts, social entrepreneurs, NGO's etc. Reviews of programmes happens continuously through widening the consultation with more partners towards building a programme design that is agile, responsive and proactive to the dynamic context of economic and societal trends.

Dimension: Leadership (LE)

LE Criteria*:* Organizational Culture

Traditional	Espoused	Enacted	Integrated	Optimized
The members of the organization do not consider employability as a purpose of HE beyond it being incidental. Employability of learners and the effect of the educational offering is not part of the formal or informal discourse at any level within the	Employability is part of the formal rhetoric of the organization but does not permeate through the activities the organization undertakes. The construct is at best cosmetically present in the campus environment and is topic of conversation in some isolated instances. The goal of employability, even though articulated at	Employability is considered as the purpose of the organization by most of its members and recognized as a potential point of differentiation in the HE landscape. It is actively championed at various levels but in reality is given most attention in curricular activities. It is a topic of	Employability is recognized by all organizational members as part of purposeful HE and is embraced at organizational, departmental and individual level. Where relevant, all members of the organization consider the goal of employability consistently in their activities. As part of the formal and informal conversations within and between departments, it is a common ground	Everything the organization does is first and foremost directed towards developing employability of its learners or towards enhancing the organizational ability to tackle the matter. Knowledge and information around the topic continuously flows through the organization through formal informal communication

Traditional	Espoused	Enacted	Integrated	Optimized
organization. Employability supporting projects are not actively championed, nor is employability used in the institutional rhetoric	institutional level does not find root in the day to day operations of the organization. Employability is a merely a recurring theme in the institutional rhetoric for both internal and external communication.	formal conversation around the core activities of the organization and at strategic level but still lacks organization wide buy-in. Employability is the central conversation point with external stakeholders inclusive its community. The physical environment shows signs of employability-conducive elements.	that forges meaningful and effective information exchange and collaboration between different departments. Learners are highly aware of and engaged in the employability context. The physical environment is purposefully designed to express the value of employability. Employability systematically resonates in institutional rhetoric to all its stakeholders, decor, activities and collaborations as the number one priority and goal for the HEI.	channels. It is evident that the whole organizational activity gravitates towards the construct driven by a strong sense of continuous improvement and search for excellence.

LE Criteria: Institutional Practice

Traditional	Espoused	Enacted	Integrated	Optimized
No benchmarks are used other than destination data. Employability is not seen as a critical factor of distinction.	Management suggests actions around employability to faculty and staff through investigation and evaluation of best practices and developing dialogue towards implementation at appropriate levels.	A standardized approach to employability is endorsed by the institution and benchmarked against good/best practice. Institutional research on employability is formalized through a designated unit and engagement by faculty is incentivized. Association with professional authorities in the various fields of study is expedited.	Good practice is the norm and best practice is celebrated throughout the organization. Institutional research reports on current practices at both programme and institutional level. There is an institutional community of practice that exchanges ideas building a strong body of knowledge around how to tackle employability.	The institution has contextualized best practice and systematically fine-tunes its approach trough continuous incremental innovation of its process. Through close and effective collaboration with all its primary and secondary stakeholders the institution is highly agile and consistently features in the scholarly environment as highly effective and exemplary.

LE Criteria*:* Decision Making

Traditional	Espoused	Enacted	Integrated	Optimized
Decision making does not consider employability as a qualifying factor for planning, resource allocation or evaluation practice.	Decision making recognizes employability as a qualifying factor for planning, resource allocation and evaluation practice but lacks appropriate mechanisms to do so. Graduate employability is a formalized KPI at institutional level.	Employability is used as a formal indicator in the evaluation of organizational performance both at process and at output level by means of basic processes.	Leadership puts employability central to its activities by considering it as an important evaluative factor for decision making. Projects are evaluated and given support on the basis of their contribution to employability. Evaluation of organizational performance on employability is formalized in department specific KPI's with clear and department specific processes in place.	The goal of employability as the highest institutional priority drives all decision making in the organization.

LE Criteria: Overall Strategy

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have an articulated place in the strategy of the organization. It is not considered as a formal objective or purpose of HE. There is no specific set of processes, or policies in place towards this goal.	Employability is recognized as an important point of attention by the institution. It is part of the articulated aspirations of the institution, but lacks strategic implementation. Employability limited to be part of the overarching organizational objectives.	Employability is a formal part of the strategic plan. Employability is actively considered as a competitive advantage for the HEI. The goal is broken down into some sense of sub goals for relevant organizational activities. The organization has a function that carries the formal accountability against the goal.	The institution places employability high on the strategic agenda and considers its realization a priority. Resources are allocated directly in support of the realization of this goal at institutional and activity specific level. The organization uses results around employability actively as a central topic of conversation to all stakeholders. The institution has actively assigned dedicated resources in the organization to address employability at various levels of the organization and in various activities ranging from academic to community service.	Employability is the top priority towards which every other activity is geared towards in terms of planning, organization, implementation and evaluation.

LE Criteria*:* HR strategy

Traditional	Espoused	Enacted	Integrated	Optimized
Recruitment strategy of academic field specialists in line with the programmes and supporting opportunities for professional development to maintain currency in their field.	HR structures that support the organization of support activities with recruitment of generally relevant professional profiles for support activities. Some sense of inclusion of employability in the orientation programme of new staff, mostly geared towards academic faculty.	Employability forms a formal part of the orientation for all relevant activities. Recruitment happens on the basis of profiles that are suitable for the realization of employability through a learning offering that aligns with industry and through support activities that are conducive to employability. Professional development around employability is encouraged and	The institution carefully recruits profiles that are suitable for the employability transformation it offers its learners. Job requirements include where relevant formal considerations around employability related factors (e.g. industry experience or professional qualifications). Performance evaluation includes employability	Professional development activities around currency with the latest trends in HE and employability are institutionalized. Personnel have on average a very well rounded profile that includes all facets of the transformation process with accents in expertise around the specific activity they engage with.

Traditional	Espoused	Enacted	Integrated	Optimized
			related KPI's for some of the functions. Professional development that enhances the ability of the institution to address employability is prioritized.	

LE Criteria*:* Institutional definition

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal institutional definition.	There is a formal rhetoric around employability that is primarily based on buzzword semantics.	The definition of employability has primarily national relevance and holds substance that is linked to a larger approach to employability development. The construct is defined with a focus on work-readiness.	An institution wide definition of employability is developed in collaboration with external stakeholders and holds relevance to external and internal environment of the HEI inclusive of its community. The construct is furthermore broken down into a variety of concepts that allow contextualization across programmes and institutional activities. The definition approaches employability from a lens of human capital relevant to the future economy and its community.	The institutional definition of employability is a clear reflection of the well balanced individuals that will be required for the future in both economic and societal context. The definition and the institutional understanding of the construct consistently link with the programme and institutional outcomes. The definition is holistic and connects ideas such as lifelong learning, career competencies and societal development.

Dimension: Quality Measurement (QM)

QM Criteria*:* Data

Traditional	Espoused	Enacted	Integrated	Optimized
Basic demographic, academic and destination data only (simple metrics e.g. employment status before graduation, after graduation, 3 months, salaries)	Basic demographic, academic and destination data, some general labour market information, some general data on the employability development process.	Varied levels of data on the local external environment (economic and labour market), academic transformation process, support activities, learners and graduates: e.g. Comprehensive demographic, academic and destination data with follow up, up to date labour market intelligence, detailed data (qual or quant) on the process of employability development, some data on results of the employability	Comprehensive employability data on the local external environment, institutional transformation process, learners and graduates. Sector specific labour market intelligence according to programmes. Future trends and strategic public policy emphasis in local labour market. Data profiles per	Highly detailed, highly current employability data on local and global external environment, institutional transformation process, learners and graduates. Highly relevant or tailored metrics of labour market requirements and programme specific profiles representative of specific industries and employers. Detailed process

Traditional	Espoused	Enacted	Integrated	Optimized
		development process, formal employer appraisals of learner's work according to institutional assessment frameworks. Evaluation of curriculum and overall experience by students includes a component dedicated to employability and welfare/happiness.	learner. Best practice data and information on employability and HE.	metrics and KPI's reflecting the institutional transformation intention and the reality of the learners' development. Data and information on the state of the art in HE for employability. Detailed career path data on graduates.

QM Criteria*:* Standard & Accreditation

Traditional	Espoused	Enacted	Integrated	Optimized
The standard around employability is internally decided in compliance with guidelines of national relevant educational standards in terms of contents that need to be covered and administrative procedures that need to be in place. Employability is seen as a by-product of a quality	Even though employability is not part of an institutional policy, quality considerations around employability are given some attention in curricular activities. External parties are consulted at the outset of the program to establish an internally generated standard in relation to	Employability is formally recognized as a quality indicator for the overall performance of the HEI yet this is mostly viewed so in terms of curricular activities. Review, validation, quality assurance and accreditation exercises of all programmes include employability as a formal component. Some general quality indicators refer back to the	The address of the HEI towards employability is holistic in nature and considered as a priority quality indicator for its overall operations. Professional industry standards and industry expectations are formally known and understood for each program. Labour market expectations and realities are understood to benchmark expected outputs	The HEI is constantly fine-tuning its employability address through systematic large and small scale reviews and external validations beyond the required national, international and professional accreditation requirements. The address of the HEI towards employability is often referenced as the field quality benchmark. The institution is committed to exceed the

Traditional	Espoused	Enacted	Integrated	Optimized
academic process.	how the program addresses employability. There is lack of common understanding by all stakeholders on the topic. The institution complies with the national accreditation guidelines around employability.	performance of the curricular activities in the context of employability. The institutional review process addresses the performance of support activities. The institution has formally stated objectives around how the institution aims to address employability. The programmes are aligning with credible and meaningful professional certification bodies.	of supporting activities. Both areas of activities form part of a formal and systematic review process of the institutional approach towards employability with the eye on continuous improvement. The offered programmes are accredited by professional certification bodies. The institution is placed highly rankings that consider employability indicators.	requirements and expectations of industry and the labour market. Each of the offered programs is endorsed by professional accrediting bodies and a wide spectrum of entities in both the private and public sector. Each of the programmes has a variety of employability relevant third party recognized achievements. The institution is invited to showcase its practice and engage in professional development for other HEI's either through professional or governmental development programmes.

QM Criteria*: Systems*

Traditional	Espoused	Enacted	Integrated	Optimized
Simplistic use of SIS system alongside yearly collection of destination data through phone or online survey.	SIS system alongside yearly destination data collection through phone or online survey, secondary research or superficial consultation with industry on labour market requirements and Isolated efforts of piloting data collection mechanisms concerning the institutional transformation process.	SIS system, systematic destination data collection and use of semi-systematic data collection mechanisms on the transformation process and labour market requirements.	Systematic employability data collection around environment, process, learners, destination and employer satisfaction. The institutional transformation process is broken down in metrics or qualifiers through a 360 degree approach that includes internal and external stakeholders.	Systematic, automated and highly regular collection of a comprehensive data set of employability data that are highly relevant to the context of institutional and programme specific practice around employability and HE on the one hand and particular specifics to the HEI in question around environment, process, learners and destination. Specialist external partners feed highly reliable and highly significant data to the institution.

QM Criteria: Analysis and Reporting

Traditional	Espoused	Enacted	Integrated	Optimized
Very simplistic analysis for compliance reporting purposes only. Reports are mainly produced on external demand and are generally not used for evaluation, feedback or improvement purposes.	Basic analysis around destination data, qualitative analysis around labour market requirements. Reporting on employability data is not standardized beyond compliance requirements. Findings of analysis and reporting provide limited feedback to internal stakeholders	Semi systematic employability data analysis and established reporting mechanisms at the level of labour market requirements, destination data, demographic data, academic performance and curricular contributions to employability development. More ad hoc or siloed analysis and reporting of employability data at the level of program and institutional	Systematic analysis and reporting of employability data around curricular process, output and context. Semi-Systematic in depth analysis and reporting on employability data around programme or course specific impacts and the total institutional transformation process towards the generation of comprehensive employability profiles per student. On As part of the review cycles, gaps between labour market requirements	Highly in depth analysis and highly tailored reporting of employability data inclusive of comparing up to date contextual, process and destination data, inclusive of the ability to run simulations around context, process and destination. Ability to generate instant snap shots in time around current performance of the transformation

Traditional	Espoused	Enacted	Integrated	Optimized
	and are only sporadically used for evaluation or improvement.	transformation process without established analysis or reporting mechanisms.	and the HEI's intended/realized outcomes are identified and reported on for improvement. Data and analysis is reported back to relevant stakeholders in a format and granularity relevant to its use. Good practice and poor practice is flagged and respectively celebrated or investigated.	process in context. Professional development requirements are systematically highlighted and reported at relevant level. Automated or semi-automated suggestions around optimized approaches towards meeting graduate profile requirements. Key external partners are included in the performance reporting.

Dimension: Industry Relations (IR)

IR Criteria: Approach

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal approach or structure to engage with industry.	The institution develops relationships with industry through each of the departments in a rather organic manner without a formal approach to institutional network building. Relationship building is ad hoc.	The institution has a formal department that is charged with the development of industry relations. Many meaningful and practical contacts are still developed through informal or personal networks of members outside the industry relations department.	The institution has a systemic approach to industry relations by means of departmental contact points that form an internal network that governs the industry relations of the organization. The network is governed by designated account managers and a relationship management system.	The institutional and personal networks of industry relations are intertwined and easily accessible to anyone in the institution through a highly sophisticated relationship management system that allows for the identification of desirable industry relationships on the basis of automated queries and historical interaction. At the same time it captures a sense of desired human capital profiles for each of the organizations.

IR Criteria: Form of Relation

Traditional	Espoused	Enacted	Integrated	Optimized
no or very superficial, passive relationship around informing the HEI about the labour market (and is at best research oriented.)	The relationship is mainly conversational in nature around labour market realities with little significant information exchange. The relationship is largely of PR nature.	The relationship is one of partnerships for information exchange to align the approach of the HEI to the labour market requirements.	Effective, synergistic relationships between the HEI and industry The relationships have clearly identified goals which are reported on throughout the collaboration.	Highly mutually beneficial relationships between the HEI and industry spanning across a variety of areas is developed and sustained (e.g. information and knowledge exchange, financial or other support, operational and strategic collaboration, etc...) The HEI becomes the partner of choice for industry and its relation is seen by both as symbiotic.

IR Criteria: Result / Benefit for the HEI

Traditional	Espoused	Enacted	Integrated	Optimized
industry relationship is not valued as pertinent towards the goal of employability	The institution mainly capitalizes on the relationships through PR opportunities and superficially towards informing its rhetoric around aligning the value offering of the HEI with the labour market.	Industry provides input for the institutional definition of employability and further refinement of the construct at program level. Enthusiastic industry members get actively involved in supporting curriculum design, development (steering committees) and to a certain extent delivery and assessment (internships, WIL, etc.). Industry is engaged with support services.	Industry involvement in curriculum design & development (inclusive of review), T&L activities and support services is the norm. Detailed labour market intelligence informs strategic considerations for the HEI around programme offerings and support services.	Industry approaches the institution for privileged association and partnerships. The institution can choose its industry partners. The network of the institution offers very high leverage for the HEI towards securing inputs to further strengthen its value offering and towards producing quality outputs through its transformation process. The HEI's has developed a highly competitive profile in the HE landscape through the association with selected industry partners.

Dimension: Employability Support Services (ESS)

ESS Criteria: Student Engagement

Traditional	Espoused	Enacted	Integrated	Optimized
Engagement with/of learners is low.	Engagement with/of learners is mostly limited to communication about the services and some interaction with highly motivated and interested learners.	Engagement with students is prioritized, actively pursued and recorded. Engagement with students with special learning needs in an employability context is addressed. Engagement is more common among learners in specialization years or near graduation.	Engagement with students is high due to some form of compulsory interaction with the support services. There is some form of engagement that spans across the total learner body due to relevant services offered.	The majority of learners actively seeks out the services and respond highly positive. Senior learners support junior learners in the development of career competencies.

ESS Criteria*:* Organization and Orchestration

Traditional	Espoused	Enacted	Integrated	Optimized
The institution provides few and ad hoc activities around career support with little or no engagement of internal or external stakeholders.	Employability support services consists of a series of ad hoc activities in the realm of career support that happen in isolation from one another and from the rest of the institutional activities and departments. Engagement of internal and external stakeholders is not systematic and remains superficial. Communication around the activities is partially effective in terms of awareness of internal stakeholders.	There is a formal, planned calendar of employability support activities covering a range of employability related topics, inclusive of considerations for learning difficulties in an employability context. Activities are formally and systematically communicated to internal and external stakeholders with overall reasonable awareness among internal stakeholders.	The employability support activities are delivered in orchestra with the curriculum delivery and sequence as complement to - or through active participation in T&L activities that relate to employability inclusive of consultative collaboration towards design and development. There is formalized collaboration with the Learning Support Services when appropriate. Some of the support services activities are formally set as credit bearing options in the curriculum. Career	'Additionally to being integrated in academic activities Employability Support Services are highly aligned with - and responsive to the current trends in the labour market. They advise on general and specialty career competencies and develop tailored career profiles for engaging learners. The units' involvement in

Traditional	Espoused	Enacted	Integrated	Optimized
		Engagement with stakeholders is established practice in terms of information exchange but mostly superficial in terms of involvement.	services office further continues engaging with Alumni in a mutually beneficial relationship. Engagement with internal and external stakeholders is systematic and significant in terms of information exchange and involvement in the realization of the support activities. Support services unit forms part of the organizational information flow around employability.	the organizational knowledge flow around employability is highly significant particularly in terms of providing detailed, programme specific and highly meaningful inputs around the current and future labour market requirements.

ESS Criteria: Staff

Traditional	Espoused	Enacted	Integrated	Optimized
Few in number and mostly untrained in career counseling or career management skills	The head of the department has experience in the field, yet assigned staff has limited experience in career counseling.	Assigned staff has undergone formal training for career counseling and career management according to national or international standards. Professional development opportunities are available allowing for up-skilling in career, curriculum or recruitment domains.	Assigned staff consists of qualified experts in the field of career counseling and career management with curriculum development acumen. Professional development in the field is required, partially supported and forms part of the performance appraisal.	Assigned staff consists of experts in the field of career counseling and career management with understanding of professional recruitment practice and curriculum development experience. Professional development is part of a systematic HR developmental strategy. Opportunities identified by the staff are supported by the organization. Staff operates as PD facilitators for other HEI's.

ESS Criteria*:* Bridge to the labour market

Traditional	Espoused	Enacted	Integrated	Optimized
no conducive role	In theory the bridge builder, but in practice the results are not very impactful.	Employability support activities are institution wide recognized and promoted as the conduit towards the labour market. This takes the form of job fairs, guest speakers, workshops, active alumni and special learning needs support in an employability context. There is limited reporting around placing current students or graduates in employment situations. There are pockets of formally supported specialty activities around entrepreneurship.	Support services effectively secure, communicate, deliver and report on placing graduates and current students in employment situations. Collaboration with industry relations is high under the form of meaningful exchanges of information and network building. There is an institutionally supported center to nurture entrepreneurship.	Employability support services operate as a secure conduit to employment through a strong network and highly effective mechanism to introduce current students to employment situations that eventually build towards full time employment in highly meaningful and desired companies and positions. The institution has a formal and effective mechanism in place to spin off startups.

APPENDIX 2 Sample Documentation around securing participation of Key Informants for interviews

SAMPLE - Introductory Email for Participants in Interviews

Dear (Name of the Participant),

I trust you are doing well.

In realization of a research study I have been given the green light from (Name of Authorizing stakeholder of the Institution) to conduct interviews with key informants to outline (Name of the Institution) as a case study on how a Higher Education Institution can address graduate employability.

Based on your position, tenure and knowledge of the institution, you perfectly meet the profile of a key informant for this case study. I therefore would most humbly like to call upon your goodwill to participate in an anonymous face to face interview of approximately 1 hour. The interview would be conducted in English. You are free to decline this meeting request in case you do not want to be part of this study. Should you accept my request then please be advised that the time and date presented in this meeting request is only a suggestion. Should you feel this does not suit you, I am very happy to reschedule.

Attached 4 documents that will help you to prepare for this interview:

1. A brief introduction to the study.

2. The participant information sheet that outlines some more details around being a participant in this research study.

3. The consent form related to participating in this research study.

4. The questions that will be asked during your interview session.

I would like to thank you in advance for your willingness to participate in this and hope this timing will be suitable for you.

Should you have any more questions or reservations, I will be more than happy to address them for your convenience and comfort.

Most respectful regards,

Philippe Vande Wiele

Philippe.vandewiele@polytechnic.bh

00973-39865963

Phd Research Project Brief

Research Title:
The development of a Model to diagnose a Higher Education Institution on its address of employability.
Researcher:
Philippe Vande Wiele
Phd Candidate at Bangkok University PhD KIM programme – Thailand;
Advisor: Associate Professor Dr. Vincent Ribiere
Phd Candidate at Telecom Business School – Paris.
Advisor: Professor Dr. Jean-Louis Ermine

Objective Summary:

The objective of this research is to <u>develop and validate a model</u> that allows for the diagnosis of a Higher Education Institution (HEI) on how it addresses employability of its graduates in terms of its development and assessment. This research views the educational offering of a HEI as a transformational process from entry student to employable graduate. Employability is argued as a key goal for HEIs in terms of their fitness for purpose and be holistically conceptualized by considering its influencing factors. The study gives attention to how this educational transformation process can contribute towards purposeful Higher Education (HE) for the 21st Century through evaluating the approaches taken towards student development. The type of model that will be developed is a maturity model, which is typically used to diagnose/evaluate the effectiveness of processes to achieve a certain level of quality. The model of this study will identify maturity levels for different activities within a HEI whereby higher levels of maturity can then be used to start working out pathways towards better performance.

General Approach to the study:

To construct and validate the model, this study is following a qualitative design by means of a multiple case study approach (3 cases) and a Delphi Technique. After extensive review of the literature to identify the main constructs of the study, 3 case studies will be used as a preliminary ground for data collection to develop, in conjunction with the existing literature, a first version of the model. The researcher will then engage in a Delphi Technique whereby field experts are consulted on the model's content in order to come to consensus around the validity of the model.

<u>Specific relevance for my inquiry to your institution</u>

The case study protocol for the first three cases would involve the evaluation of multiple data sources:

1. information around employability and the institution in the public domain,

2. the physical site

3. internal documentation relevant to the processes of addressing employability (strategic and operational in nature)

3. key informants who are knowledgeable about the approach of the HEI (past, current and intended)

Data sources 1 and 2 can be fully taken care of by the researcher needing no (or very little) support by the case institution for investigation, given the approval for physical access to the site.

Data sources 3 and 4 would call for collaboration between the institution and the researcher in order to gather the data required for the advancement of the study. For data source 3 the researcher aims at electronically scanning documentation that is relevant in order to proceed towards content analysis in later stages. This of course would be done under an agreement of full confidentiality and the sharing of the findings at the end of the analysis. Data source 4 would be addressed through Interviews with one or more key informants at selected site. These individuals can be identified in collaboration with the HEI. Preferably these interviews would be conducted in person, however phone/skype interviews can be considered should this be more appropriate. The interviews would follow a standard interviewing protocol for academic research. Desired profiles of participants would be considered on the basis of expertise and involvement in activities that concern employability at the HEI.

Priority would be given to people that hold positions that cover tasks that sit at the cross section of the academic, administration and managerial activities. Questions of the interviews will be shared in advance with participants, allowing for preparation if this would be desirable from their side.

The findings from these case studies will then be used to develop a first iteration of the model, to be presented to a panel of experts using a Delphi Technique for validation, to arrive at a second iteration of the model.

Request for exploratory conversation around possible participation in the study.

I would like to invite you for a first conversation in order to explore the inclusion of your esteemed institution in the first three case studies. I look forward to hearing from you.

Most respectful regards,

Philippe Vande Wiele

philvandewiele@gmail.com

00973 – 39865963

SAMPLE - Consent Form for Participation in Interview Research

I, the undersigned, volunteer to participate in a Phd research project conducted by Mr. Philippe Vande Wiele from Bangkok University and Telecom Business School. I understand that the project is designed to gather information about institutional practice around the development of employability in undergraduate business students. I will be one of key informants being interviewed for this research. I take duly note of the

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one on my campus will be told.

2. I understand that most interviewees in this research will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by Mr. Philippe Vande Wiele. The interview will last approximately 45 - 60 minutes. Notes will be taken during the interview. An audio tape of the interview and subsequent write-up of the dialogue will be generated. If I don't want to be audio-taped, I will not be able to participate in the study.

4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent use of records and data will be subject to standard data use policies which protect the anonymity of individuals

and institutions by default. Overriding this default position requires written consent from the relevant actors.

5. Faculty and administrators from my campus will neither be present at the interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

6. I understand that this research study has been reviewed and approved by the Phd Committee of Bangkok University and the necessary authorities of my institution.

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a signed copy of this consent form.

Date of interview _____ / _____ / _____

Name and Signature of the Interviewee: _____

_____   _____

Name Signature of the PI: Philippe Vande Wiele

For further information, please contact:

Philippe Vande Wiele – philvandewiele@gmail.com // 00973 - 39865963

SAMPLE-Participant Information Sheet

Study Title

Higher Education and Employability: the Development of a Diagnostic Maturity Model.

I would like to invite you to take part in a doctoral research study. Before you decide whether you want to participate, it is important that you understand what this project and entails and what your possible involvement means. Please read the following document carefully and ask questions in case what you read is not clear or would like to receive more information.

What is the purpose of the study?

The purpose of this study is to complete a doctoral degree in Knowledge Management and Innovation Management. Through this study I intend to address the gap that currently exists in mechanisms to diagnose offerings in higher education on how they tackle the goal of employability for its students. The objective is to develop a diagnostic model that allows the evaluation of a Higher Education Institution and open potential pathways to improvement.

Why have I been invited?

The study relies on key informants of particular institutions that have been purposefully selected on the basis of their distinct commitment and approach towards graduate employability. You have been identified as one of the 8 - 9 key informants for your institution on the basis of your tenure, your position and your specialty knowledge of the institution.

Do I have to take part?

You are free to decide whether you take part in this study or not. Should you agree to move forward in participating in this study, then I will provide you with a consent form that will outline the general terms and conditions of the interview that I intend to involve you in. You are of course free to withdraw from this project at any time that is deemed appropriate for you without the need to provide any reason for you withdrawal.

What will happen to me if I take part?

The main part of your participation will involve a semi structured interview whereby you will be asked to elaborate on the way the institution that you work for tackles the goal of graduate employability from your point of view.

You will be presented in advance with a variety of questions that I intend to ask you. This will allow at least a two week time period to prepare and get some ideas around what you will say.

The interview will effectively last around 60 minutes and will be administered in full confidentiality. The interview will be audio recorded for the purpose of being able to review the answers later on. This recording will only be accessed to the principal researcher for this study. The content of the interview will be used to, in combination with all the other interviews that I will do in the institution, to sketch a clear picture of what the process is that your institution has in place in order to tackle the employability of its students.

After the interview is concluded and the findings are being distilled, I will contact you again to review the findings, just to make sure that you are comfortable that my writing reflects what you have told me.

Compensation

Since this is a self-funded study, I have no compensation budget available for your participation in this study. You will however be mentioned in the acknowledgement of my study should you feel this appropriate.

What will I have to do?

You will be expected to meet with the principal researcher for a one off session of approximately 60 minutes to answer a series of questions that you have been presented with beforehand.

What are the possible disadvantages and risks of taking part?

The interview that you are asked to participate in does not intend to expose you to any uncomfortable situation or require you to divulge any sensitive information. Should this however be the case, then this will be treated with the appropriate consideration of confidentiality. You are always free to not answer any questions, refuse to elaborate on a statement or have a statement removed from the record.

What are the possible benefits of taking part?

There is no promise that participating in this study will benefit you in any way, but the information we get from your involvement in this research project will potentially help the future improvement of higher education on a topic that is currently very important.

What if there is a problem?

If you experience any issue with this research, then i would like to ask you to contact the principal researcher directly. Should your issue be with the principal researcher or you feel uncomfortable addressing the issue to the principal researcher,

then you can contact the principal researcher's supervisor on

vince@vincentribiere.com.

Will my taking part in the study be kept confidential?

Your answers to the interview questions will be audio recorded and at the same time the principal researcher will be making notes during the interview. The interview will be held one on one, without any third party present.

The data will be recorded on a data sheet that represents the total of information captured out of all the interviews that have been held in your institution. This will be electronically stored, offline, for further analysis in case this is required.

Your confidentiality with be safeguarded in terms of your name and information that you wish not to be divulged. Your department will be at least mentioned as the data source in the information sheet. A master list of names and contact details of any person interviewed for this study will be held under password protected document, stored offline at all times. The password will only be known by the principal researcher.

The data will only be used to develop the model as a result of combining data from two other case studies. Only the principal researcher and doctoral advisor will have access to the data. The data will only be made public after this has been approved by the participant. The data will be retained at least until after the defence of the study, but possibly two years longer as is common practice in doctoral research.

What will happen if I don't carry on with the study?

If you withdraw from the study we will keep all the recorded interview material collected up to date but will follow your request in terms of acknowledgement in the final write up of the study.

What will happen to the results of the research study?

The results of the study will be shared in the academic community under the form of a dissertation that is publically available in the library of Bangkok University and Telecom Business School. In case you wish to obtain a copy of the dissertation, then a formal request can be sent to the principal researcher and a softcopy of the dissertation will be made available once the document has been submitted and approved for publication.

The results will likely form the foundation of a series of tests of the model that is being developed out of the case studies.

Who is organising or sponsoring the research?

This study is fully self-funded by the Phd Candidate and is organized by Bangkok University Phd KIM program and Telecom Business School Sudparis Phd in Management program.

Further information and contact details:

For further information about this study you can contact the principal researcher:

Philippe Vande Wiele

philvandewiele@gmail.com

00973 – 39865963

Or his doctoral supervisors

Assoc. Prof. Dr. Vincent Ribiere   (Bangkok University)

vince@vincentribiere.com

Prof. Jean-Louis Ermine (Telecom Ecole de Management)

jean-louis.ermine@telecom-em.e

SAMPLE - Preparatory Interview Sheet

Study :

Higher Education and Employability: The development of a Diagnostic Maturity Model.

Case Study	Name of the institution
Participant Nr	x
Department	SMT - Strategy
Position	Strategic Advisor to the CEO
Date of Interview	x
Consent to audio record obtained	Yes – No
Duration of Interview	Projected for max 60 minutes
Interviewer	Philippe Vande Wiele

Note: These are indicative questions as part of a Semi-Structured interview format. The bullet points are elements that may help you to inform your response to this question.

Q1: What does employability mean to your institution and department?

- a formal definition – institutional - departmental

- a strategic goal – quality indicator –seen as part of its purpose

- its priority

- seen as a potential competitive advantage

- KPI's (Key Performance Indicators)

- Targets

Q2: How does your department address employability?

- Explicit / Implicit evaluation?

- Activities aligned with industry?

- Provided services?

- Trained staff / expertise?

- Staff Training and Development

- Structured mechanisms?

- Data collection?

Q3: How does your department interact with other departments in your institution around the topic of employability?

- Interaction with Quality Unit

- Interaction with Career Center / Alumni / Student Services

- Interaction with academic departments

- Interaction with Curriculum unit

- Interaction with Marketing

- Other entities inside…

Q4: How do you communicate your efforts around employability throughout organization?

- Communication mechanisms

Q5: How does employability form part of your discourse with external stakeholders (i.e. outside the institution)?

- Interaction with industry

- Formal showcasing

- Communication of the stats

- Quality assurance reporting

- Communities of Practice

- Conferences

Q6: How does employability influence decision making at departmental and institutional level?

- Evidence based decision making

- Exploration of innovative ideas (T&L or other) – standardize good practice

Q7: Can you elaborate on challenges that you face in addressing employability in your department / institution?

Q8: How would you see employability being better addressed in the future?

- What if no constraints / limitations?

Q9: Any other comments or statements that you wish to make around employability in your department, function or capacity?

Q10: Is there anyone you would advise me to make contact with to arrange for an interview in the institution?

APPENDIX 3 Case study HEI1

    1. Case specific data sources

        1.1. Interviews

This case is primarily built on findings from interviews with 11 key informants (Table A-3) presenting a range of views based on their involvement in the transformation process. The key informants were chosen on the basis of their position and tenure in the organization in order to present a comprehensive understanding of the transformation process the institution has in place.

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Participant nr	Position	Tenure	Key involvement relevant to this study
P1.1	Programme Manager in the Bachelor of Business programme – Marketing Major	7 years	Academic function as teaching faculty member in charge of running, reviewing and overseeing design and development of a programme, programme. Liaising with Head of School, Dean, Industry Liaison and Quality Manager for the school.
P1.2	Programme Manager Quality in the School of Business	5 years	In charge of quality assurance at school level and accreditation through quality improvement planning by liaising with the Institutional Quality Unit. Responsible for the facilitation and internal validation of programme based efforts towards set goals and targets.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.3	Manager Academic Development Department	3 years	Manages institutional academic development processes and policies, governs programme design and development structures and professional development. Liaises with Faculty, Quality Assurance and industry liasons and reports to Senior Management Team around institutional performance on academic matters.
P1.4	Manager of Quality Institutional Review	8 years	Involved in the development and administration of institutional review around quality and accreditation. Works under the Head of Quality in reporting to Senior Management. Liaises with Deans and Heads of Schools mostly yet at times engages in consultation with the faculty through programme managers.
P1.5	Deputy CEO – Director Academic Affaires	8 years	Governs Academic affairs at institutional level, is a member of the Senior Management Team. Gives direction towards programme performance and reviews, outlines institutional strategic direction and reports directly to the CEO and the Board of Trustees.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.6	Industry Liaison Manager	4 years	In charge of the connection between the institution and the industry concerning opening networks for industry placement, sponsorships and other types of collaboration. Operates largely as a supporting function towards inclusion of industry in academic matters and general relationship development with industry.
P1.7	Dean School of Business	4 years	Represents the Business School at Senior Management Level, reporting directly to the deputy CEO in terms of academic affairs. Charged with the strategic direction of the school.
P1.8	Head of School for Bachelor of Business	7 years	Reports directly to the Dean. Charged with managing the operational side of the whole Bachelor of Business programme. Also forms part of the teaching faculty in the programme.
P1.9	Manager Career Services	8 years	Charged with supporting students at institutional level by presenting opportunities for career development through linking them with industry or providing them with developmental opportunities for career competencies.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.10	Strategic Research Fellow	8 years	Charged with exploring institutional research and engaging in research projects that inform the HEI around its fit for purpose.
P1.11	Head of School Humanities	4 years	Reports directly to the Dean. Charged with managing the operational side of the Humanities support to all programmes in the institution, inclusive of the foundation programme.

Table A-1 Key Informants HEI1

1.2. Internal Documentation for which access was provided

- Strategic plan (referred to as D1.1)

- National Qualification Framework listing application (referred to as D1.2)

- Institutional Quality Assurance Self Review document and report (referred to as D1.3).

- Programme Quality Assurance Self Review document and report (referred to as D1.4).

- Programme Approval Document for the Bachelor of Business (referred to as D1.5)

- Variety of course documentations (syllabi, lesson plans, support materials and assessment documents, student sample works) (referred to as D1.6)

- Annual Program Review AY 2014-2015 (referred to as D1.7)

1.3. Information in the Public Domain

- The Institutional Website (referred to as PD 1.1)

- Newspapers and articles (referred to as PD1.2)

- Ministry of Education Website (referred to as PD1.3)

1.4. Observation during site visits

- Facilities (referred to as O1.1)

- Document Management System (referred to as O1.2)

- Learning Management System (referred to as O1.3)

- Notices (referred to as O1.4)

2. Background and concise context

HEI1 was founded in 2008 as part of the realization of Bahrain's 2030 vision which focuses primarily on a new economic posture for the Kingdom, whereby it aspires to distance itself from oil dependence and develop a more diverse, sustainable and future-relevant economy (PD1.1). The Bahrain 2030 Vision recognizes the importance of human capital in today's knowledge economy and observes an opportunity in this area to realize the transformation of its economy. It aspires to be a relevant and recognized economic entity in the regional economy that is firmly tapped into the global economic trends and developments.

Such aspiration has furthermore identified education as a fundamental cornerstone to its realization. Bahrain has over the years suffered from an output of a workforce that holds University level degrees, yet - and this follows the trend worldwide - employers have not found this workforce to be value adding and thus undesirable compared to an expat workforce (Allen Consulting Group, 2009). This mismatch of supply and demand between HE and Industry is the result of 1. an

oversupply of HE at research university level, 2. a lack of provision of HE at vocational level or geared towards specific professional certification and 3. a lack of perceived prestige non-university degrees hold (P1.4).

HEI1 was established in order to tip the balance, however its mandate was founded on the development of work-ready graduates through an approach of applied education, without a specific rhetoric that vocational training would be the answer to the local workforce supply-demand issue. Yet at the same time it was evident that the lack of a more vocationally oriented HE institution was once of the reasons why HEI1 was conceived. As will be evident from the case, this institution is a prime example of the blurring lines between the 'pure sang' academic institutions and the vocational training institutions as they are known in the western world. This hybridization, as the case will illuminate, is certainly a point of strength in terms of the learning experience the graduates experience. From the outset, the focus of the institution has always been the development of relevant local human capital for the future economic direction of the nation: an employable workforce for the 21st Century (PD 1.1). At the foundation of the institution lies a research document that identified a series of reasons why a new type of HEI would be of benefit (Allen Consulting Group, 2009). The report particularly highlighted the types of skills and competencies the industry felt the current graduates were lacking. This resulted in the development of a framework of eight 'employability skills' through some international benchmarking with HEI's in UK and Oceania. The eight employability skills were confirmed and co-defined with the local industry through various round of consultation (P1.10). This list of skills operates as a frame of reference to what the institution does and what it aims for. "It makes its goals and articulation around employability understandable "(P1.7).

Employability as a whole "strongly guides the decision making around what we do and why we do it" (P1.3, P1.8). "We have some people who are very passionate about employability and this affirms the mandate of the organization" (P1.2, P1.4, P1.7, P1.8).

The institution offers six undergraduate programmes (Business, Logistics, ICT, Engineering, Web Media and Visual Design) through an English Mode of Instruction approach (PD 1.1, D 1.2-7). "Competence in communicating in English make an individual more employable in the local and regional market" (P1.7). "Employability is arguably about the Humanities more than anything else, the competencies that are generic or transferable" and are "not necessarily first field specific in nature" (P1.11). After completing the core courses of the first two years, a graduate can exit with a diploma or pursue a bachelor's degree by completing another two years of more field specific courses at higher level under the form of majors. The institution follows the National Qualification Framework in terms of how its programmes have been built and is subject to periodic quality assurance reviews (P1.2, P1.4). Up to date, each of those reviews and evaluations have rated the institution highly with a variety of commendations in terms of its practice, in particular its focus on the development of employability in its graduates (PD1.3, D1.3, D1.4).

The institution counts approximately 300 staff members of which 120 fulfill academic duties. The student body of approximately 1800 students consists of virtually 100% Bahraini full time students. The resulting 1/15 faculty student ratio is a first important point in relation to the T&L philosophy believes is required for the fostering of employability (P1.1, P1.2, P1.4, P1.5, P1.6, P1.7, P1.8, P1.9, P1.11). Each

programme is governed within a school but is subject to institutional rules and regulations from an operational and quality perspective. The information presented below pertains the largest programme in the institution - i.e. the Bachelors of Business (BBUS) programme - with a current student count of roughly 900 i.e. half of the total institutional student body. Within the BBUS programme students complete a two year (four semesters) cycle of core courses to then advance to a specialization (major) cycle of another two years (D1.5). Currently the offered majors are Management, Marketing, Banking & Finance and Accounting. New majors in the pipeline are Events Management and Human Resource Management (P1.7, P1.8). Reports in the realm of national quality assurance evidenced the argument around such offerings to be primarily based on the current and future labour market evolutions of the national and regional economic context on the basis of a systematic process of new programme development that includes a feasibility study at the start of the process (D1.4). Comparing this argument with the end result of the process, the reported rate of graduate employment within 6 months of graduation was 90% in 2015 (P1.5, P1.7) indicating this institution seems to be tackling the chasm between human capital output by HE and expectation from industry quite effectively. "Our curriculum is being designed with the objective to be on par with international standards" (P1.5). What is interesting to note is that the offering of rather traditional programmes that are at best marginally different from other HEI's in the country, does not seem to be an issue in an economy that is argued to be different from 20 years ago. "The general content is similar to most degree programs around the world, but the (learning) process is carefully constructed" (P1.7). Employers report on the graduates of HEI1 to be different in terms of personality and attitude towards work, time management and

problem solving (P1.1, P1.6, P1.7). A variety of graduate profiles that outline what a graduate of HEI1 will be like and will be able to do upon exit articulates such dispositions very clearly through its employability skills framework (i.e. a series of 'soft skills' in complement to field specific competencies). The institution also pursues the linking of professional certifications to its degree (e.g. Institute for Leadership and Management or Digital Marketing Institute) and or at least some exemptions for future attainment of professional certifications (e.g. Association of Chartered Certified Accountants and), in order to further affirm the programme's currency with the professional world (P1.1, P1.5, P1.7. P1.8).

3. Employability Transformation Process

    3.1. Theme: Leadership

        3.1.1. Strategy

The concept of employability is truly embedded in the institution and part of its "raison d'etre" as evident from a variety of sources. The fundamental statements that embody what the institution stands for are very explicit and clear around its goal of developing employable graduates.

"We aim to produce work-ready graduates, equipped with the necessary 21st century skills before entering today's corporate world – be it local, regional, or international labour markets. This is done through designing our curricula in line with all your requirements, bearing in mind the individual needs of a student, company, or society at large. The result is a vibrant, dynamic learning environment, which welcomes the people of Bahrain to the possibility of exciting new career opportunities and to a lifetime of learning." (PD1.1, D1.1, D1.3).

This notion is translated into a strategic plan that is built on an Objectives and Key Results (OKR) system whereby on a periodic basis (six months) each level of the organization is held accountable for what they have achieved in this context (D1.1, P1.5) through quality improvement plans per academic year (P1.2). Up to now decisions are driven by institutional policies that consider industry evidence (P1.1, P1.2, P1.6, D.1.3, D1.4), good international practice (P1.1, P1.2, P1.3, D.1.3, D1.4) accreditation and quality improvement demands (P1.2, P1.3, P1.4, P1.8, D.1.3, D1.4), own big picture destination data (P1.3, P1.5), enthusiasm around internally proposed ideas through trial and error(P1.1, P1.4, P1.5), strategic value of partnerships with external entities (P1.5, D1.1, D.1.3, D1.4), internal policies around feasibility and relevance (P1.3, P1.7, D.1.3, D1.4), feedback from programme and course reviews (inclusive of student and faculty reviews) (P1.2, P1.3, P1.7).

The board of Trustees sets overall objectives and in a cascading manner, each level below then decides on objectives and action plans of what will be done to realize these objectives. One of the main 5 strategic goals of the institution for the period 2015-2019 is the reputation of its graduates: "HEI1 will be recognised for the unique qualities of its graduates; enterprising individuals well prepared, through future oriented and innovative education programmes, to take their place in a world of greater opportunity and complexity." (PD1.1, D1.1). "At the moment this young institution is working on setting structures in place that can help formalize and streamline efforts towards the realization of employability"(P1.1). "The OKR system sets clear objectives to follow the strategic direction this institution deems appropriate and this has some operational targets and objectives (e.g. attendance of workshops and seminars by staff on employability, accreditations, international partnerships,

MOU's, graduate reputation and building recognition and support) that contribute to the realization of the overall goal of employable graduates" (P1.5).

Main point of difference of its output

Aside from knowledge that reflects the reality of the industry of today and the future, the enterprising nature of its graduates is one of the differentiating personal attributes that HEI1 aims to instill in its graduates and has identified as a potential competitive advantage over other institutions (P1.1-11). The idea of being enterprising must not be confused with being entrepreneurial yet it of course has its overlaps. Being enterprising is more addressing the attitudinal and actionable dimension of employability (Vande Wiele et al, 2014). The crux of the notion sits at the point of which behaviours the graduates connect with the knowledge they have acquired and how they behave as professionals in the world of work. "Employers realize that our graduates are different from other HEI's outputs" (P1.1). "We are very proud to see our graduates be confident individuals in professional capacity with a constant hunger for learning and professional development – this means we have done our job right" (P1.5). "Industry wants our graduates because they know we are producing employees that are different and add value to the organization – companies nowadays recruit and evaluate very much based on attitude – much more than in the past" (P1.6). "Career competencies have gained attention on the educational agenda in the country since late" (P1.4). "We aspire to be more than a pipeline for HR recruitment by companies … it is about creating graduates that can add value to industry and society … with our eye on the market 10 – 15 years from now" (P1.7). "Employability is a wonderful opportunity to build and at the moment differentiate our brand in the HE landscape" (P1.3, P1.8). "Information around employability is

one of the things that play in the decision making of parents and prospective students"
(P1.5).

Institutional understanding and culture

The interviewees confirmed employability to be part of the organizational
culture by infusion in many institutional activities, formal communication and
conversations around what is being done and why it is being done. It is a topic that
holds relevance for everyone in the institution and therefore is a good way to open
conversations between different departments and with external stakeholders (P1.2,
P1.3, P1.4, P1.7, P1.8). This is very evident when looking at the way the realization
of the objective of graduate reputation trickles down to many departments whereby
each department has its own contribution to it through activities ranging from the
development of a relevant curriculum (general academic development), Memoranda
of Understanding with external organizations (Industry relations), professional and
academic accreditation efforts (academic and quality), inclusion of specific
employability related action items in the Quality Improvement Plan (Quality),
showcasing of learners' and graduates' achievements (Marketing and Career &
Employment Center) and network building (Career & Employment Center, Alumni)
to name a few.

Employability as such has not been formally defined by the institution.
"Finding an institutional definition that is relevant to all and still holds enough
meaning is difficult … it might end up being merely a blurb that is too generic to hold
any true meaning" (P1.8). The institution has opted to tackle this by developing a very
clear and straightforward framework around what it believes is needed to be
employable by means of eight employability skills: problem solving, initiative and

enterprise, learning, communication, technology, planning and organizing, self-management and finally team work (D1.3-6, PD1.1). These skills were identified, confirmed and defined in collaboration with industry through third party research and institutional efforts (P1.10, D1.3). "Senior faculty members are very well aware of the employability agenda and link it back to the skills… they have a pivotal role in passing on this mechanism to new faculty and help build that culture … perhaps the induction programme could include some more emphasis on the idea of employability, but the message is definitely sent to all faculty when they join." (P1.8).

The term employability is by many interviewees equated to "field expertise" (P1.1, P1.5, P1.7), "work readiness" (P1.1, P1.5, P1.6, P1.9, P1.10, P1.11) , "professionalism" (P1.1, P1.6, P1.9), "career competencies" (P1.4, P1.9), "21st Century skills" (P1.1, P1.5, P1.9, P1.10), "balanced individual" (P1.1, P1.4, P1.5, P1.7, P1.9) and "right attitude" (P1.1, P1.4, P1.5, P1.6, P1.9, P1.10, P1.11).

The employability skill set is displayed through ideograms for each skill "around campus in virtually all the classrooms" (P1.1, P1.7, O1.1). "The notion of employability and particularly the eight skills are truly part of the fabric of this institution" (P1.7). "Whether people can recite the definitions of each of the skills by heart, I am not so sure, but the skills are known and are a priority consideration in what we do as faculty members … focusing on these 'skills' makes it easier for us to work towards and end goal… it gives us focus and allows us to carry a conversation with the learners around what they are doing, what we want them to do and why we want them to do this" (P1.1). "The (set of employability) skills is a way to embed the strategic goal into the curriculum and the whole learning environment of the institution" (P1.3, P1.8).

Communication around employability

Employability is the central tenet in most of the institution's communication with its external stakeholders (P1.1, P1.3, P1.5, P1.6, P1.7). This is also evident out of a variety of communications that are present on the institution's webpage such as stories around industry engagement, student projects, MOU's with major companies and non-governmental organizations, celebration of successes achieved by graduates and current learners (PD1.1, PD1.2). The institutional website furthermore publishes profiles of its faculty inclusive of their industry experience, showcasing the complementary know-how in addition to theoretical expertise (PD1.1).

Internally employability is a topic of informal and formal communication (P1.1, P1.2, P1.3, P1.4, P1.6, P1.8). Formal communication takes the form of inclusion of the topic in strategic documentation and reporting that is then disseminated throughout the organization and concerns in most cases bottom line destination data of graduates or directives and objectives around employability development and reporting. "Information and data around employability needs to flow through the organization in order to create good mechanisms to tackle it" (P1.5). "Strong information is required in order to get a good idea of what is currently possible, where we are at and where we want to go" (P1.7). Currently meetings and the SharePoint system are used to make this information available. The locations on the document management system where most information around employability can be found are the T&L site, Quality section of schools and Career Services site (O1.2).

The most intensive level of exchange around employability seems to be among the academic departments in the institution under the form of interactions in between faculty members of the same school and between a school and the academic

development department. "Employability is often the underlying topic of discussion between faculty members when discussion where the programmes are going, or why they are being adjusted"(P1.1,P1.8). "Monthly newsletters often include topics that link with employability, particularly in relation to achievements of students or faculty members around strengthening the programme and industry relations" (P1.1, P1.7, P1.8). Interactions across different faculties or with non-academic departments seem to be more ad hoc or on a mere reporting-when-required basis. "As a young institution, it is normal that we cannot have all our departments integrated yet around such topics – this has to grow organically at the start"(P1.7). "Career services could be more involved in the realization of the curriculum, but this is not evident" (P1.9). "Our main concern at the moment is to find a mechanism that allow us to, in a somewhat standardized way, get a handle on understanding and articulating how employability is embedded in what we do … but we know we are doing it, but we need to capture the real know-how around this."(P1.2, P1.7). "Before we make any decisions moving forward, it is important to understand what we are doing and how we are currently doing it through consultation with all stakeholders and critical analysis … then we can decide whether and how we make changes for improvement" (P1.3). "At the institutional quality level, it boils down to a philosophical question around quality where currently the institution is addressing quality more through a corporate lens than through a educator's lens … this has its advantages, but this also means that currently institutional quality is not focusing on T&L much … the creation of quality managers for each school is a good first step in that direction, since they are closer to the faculty and the core activities of what we do "(P1.4). "Quality is about improvement, not about compliance (P1.3, P1.4) but whether everyone in the

organization views the Quality unit in this way is a question mark … having multiple validation and accreditation visits and subsequent documentation requirements of course complicates things … the quality improvement plans are a good institutional step forward to see the value of quality improvement, the relevance of such a cycle and closer engagement with it" (P1.4). "The Marketing department helps us with getting stories our around success of our graduates, but there is likely more potential if this was done in a more orchestrated and strategic" (P1.1).

Communication to learners around employability typically happens through two channels: the faculty and the Career & Employment Center. At the outset of the course, each learner is made aware of the graduate profile of the major, the learning outcomes of the course and how this fits into a professional context through a systematic sharing of documentation on the LMS (O1.3). During the delivery of courses "the conversation with the learners constantly shifts back and forth between technical knowledge and its relevance to industry, professional behavior and work readiness" (P1.1). Each assessment is accompanied by a marking rubric which communicates clearly to the learners what they will be assessed on and how this assessment is being evaluated. These statements often include implicit or explicit reference to the employability skills framework in particular around communication, planning and organizing, initiative and enterprise, teamwork and problem solving (D1.6). The faculty provides rich, developmental feedback to learners around not only the technical aspects of their performance, but also their employability skills and industry contextual notions in case these are relevant (D1.6). The moderation folders on the document management system show clear evidence of high levels of feedback around a variety of aspects of learning, not just the technical knowledge of a field of

study. (O1.2). "The career and employment center uses the Learning Management System, sms, bulk emails, personal meetings and posters on campus to communicate their presence, activities and services to students" (P1.9). Social media presence is run through an institutional account that is managed by the Marketing department as in integrated part of its website. Its content holds relevance to employability at the more holistic and broader level (PD1.1).

3.1.2. HR strategy

In terms of its faculty, the institution has made a deliberate choice to hire people with industry experience alongside academic qualifications (D1.1, D1.3, D1.4, PD2.1). "The use of a faculty that primarily consists of educators with strong industry experience either locally or internationally, gives great confidence in our learners that they are learning from people who know what they are talking about" (P1.1). "Industry experience is critical to be able to operate in an organization such as this one, because of the very nature of what we do and how we do it" (P1.6). "The industry experience combined with a high level of academic expertise" (P1.2) allows for "the development of a programme that is credible, relevant and above all meaningful for the learners" (P1.5).

Each faculty member that joins the institution undergoes an in-house training programme around the T&L philosophy the institution adopts to ensure that from the start the faculty understands and is able to deploy a T&L approach that is consistent with what the institution says it does (D1.3, D1.4). There is of course a sense of academic freedom "certain levels of freedom are necessary - particularly around course content and T&L - because the more systematic, the more standardized and the more regulated a process becomes, the more rigid and resistant to change it

results to be … we need to remain flexible where we can"(P1.5). The fundamentals however are clearly communicated and can be found in the supporting documentation, processes and systems the new faculty is exposed to throughout their training and on the job. There is furthermore an extensive calendar of Training and Development presented by the T&L unit whereby a good few training activities are linking with or are directly about Employability (D1.3, O1.2). This includes bringing in outside expertise from sources such as the Higher Education Academy (UK) and the Higher Education Council (local governmental body) (D1.3, O1.2). "The attendance to such trainings is only in certain instances compulsory, but is considered in the yearly performance evaluation appraisal" (P1.1). "In the academic year 2015-2016, as part of the OKR's around employability, a formal and compulsory discussion forum around employability was organized by means of various sessions where eventually all staff were given the opportunity to share their impressions around employability to further understand the institutions standing in terms of realizing employability, share good practice and identify how to progress towards improvement." (P1.3, O1.2). "To keep the industry experience of the faculty current, it is recognized that there needs to be attention given to up-skilling of the faculty not only in Academic Competencies, but also in terms of industry currency" (P1.7). "The professional development mechanism to engage in out-house courses or other opportunities requires quite a bit of administration and is restricted by inevitable budgetary constraints ... but certainly not impossible to engage in" (P1.1, P1.3). "Our interactions with industry and the inclusion of real life projects and industry challenges in our curriculum help us to remain aware of what the current practices are."(P1.1, P1.6). On a yearly basis the institution organizes a T&L symposium which allows the institution to share good

practice around T&L and employability is yearly a topic of discussion and reporting (O1.2).

3.2. Theme: Curriculum

The curriculum at HEI1 is designed and delivered around a collaborative educational model with a T&L philosophy of Student Centered Learning (SCL) and Problem Based Learning (PBL) that is institutionally adopted (D1.1, D1.3-6) whereby "the curriculum is based on the needs of industry (identified through consultation)" (P1.1, P1.2, P1.3, P1.8, P1.11) with an pedagogical/andragogical objective of "creating confident and independent learners" (P1.1, P1.3) "who are able to get meaningful jobs, build their careers" (P1.5) or "even become entrepreneurs" (P1.5, P1.7). "This choice is underpinned by academic and practitioners' research around developing employability in graduates" (P1.3). All interviewees stated this idea to be a fundamental choice of the institution towards the realization of its mandate through deliberately opting to embed the concept of employability as much as possible in its curriculum rather than using the bolt-on approach. When it comes to career competencies, the institution seems to be divided whether this should be embedded or whether it is more effective to treat this separately. "Career competencies should be included in the curriculum content, in order to give the concept of career a place in the context of learning and self-development"(P1.9). "Career competencies have not really been given attention in the academic programme up to now, however that does not mean they may not be already woven into what we do since we try to be meaningful and relevant for aspiring young professionals" (P1.1). The benefit in getting the Career & Employment Center more involved in the curriculum development process is not a priori downplayed, however "this would require clear

institutional guidelines and some examples of good practice to start off with" (P1.8). "Perhaps it is not a bad thing to leave learners to explore some of the dimensions of employability a bit more by themselves… the services are offered, but if they chose not to engage with them, then that is their choice and prerogative to do so" (P1.7). "Is there a danger that by trying to fit everything around employability in the curriculum the pendulum swings too far to the other side and neglects fundamental technical theory or discussions of a more humanities nature?" (P1.11). "The elective course 'Market Yourself', originally developed by the staff from the career and employment center, was found to be a very effective way of highlighting to learners early on in the programme to be mindful of career competencies and the opportunities the programme offers them to build their professional profile "(P1.4, P1.9). Formal inclusion of this as a core course has not been realized even though there was "at some point some indication this would have been the case" (P1.9).

The curriculum design and development follows a collaborative approach with industry, whereby industry is involved in different levels of invasiveness spanning from inputs towards programme relevance all the way through to course specific assessment of the learners. "The curriculum advisory committee (which includes representatives from industry) helps us to get a clear understanding of what is currently going on in the industry and provides us with feedback on how relevant our programme offerings are" (P1.1). At the level of course development, the faculty actively builds "a network of industry partners towards the development of teaching materials and assessment situations that mirror the real business environment in the local or international market" (P1.1, P1.8). "Our programme's offering of exposure to professional practice and opportunity to get some experience is quite extensive

considering how uncommon it is for industry to work together with HEI's in this part of the world … of course we can grow this better, but we are well on the way to build this network and deliberately let this grow organically rather than trying to rush it" (P1.7). "Our relationships with industry in terms of curriculum are very meaningful, they are about learning and about building human capital for the years to come" (P1.1).

The end goal is to create work ready graduates and this is evident from statements in the graduate profile for each of the majors which make very clear and often explicit reference to the employability skills framework the institution has in place (D1.5, P1.6) and were developed in consultation with industry (P1.1, P1.3, P1.5, P1.10, D1.3, P1.4). "The graduate profiles consistently capture an idea of 'knowing, being and doing'" (P1.3) and this is furthermore formally documented in the course descriptors (D1.2, D1.6), showing the practice of breaking down the graduate profile into intended learning outcomes per course. Once the learning outcomes are broken down at course level, course developers engage in the writing of assessments for these learning outcomes, after which content is identified that best fits what is needed to successfully complete the assessment and finally lesson plans are developed to facilitate SCL and PBL through appropriate learning activities and resources (D1.3, D1.6, O1.2)."We start with the end in mind and then work backwards to see how courses can use the inclusion of industry into the content, delivery or assessment of courses" (P1.6).

This process is carefully governed by a quality assurance policy of moderation and course review (P1.1, P1.2, P1.3, P1.5, P1.8) which ensures an appropriate and meaningful composite structure of courses that form the total programme. The

sequence of the courses is also carefully considered in the realization of employable graduates, whereby "courses become progressively more complex, ill structure and authentic" (P1.1). A review of course documentation revealed that both the delivery of all courses and the notions around assurance of learning consistently incorporate the attributes of reflexivity, activity based, collaborative, student centered and authentic (Vande Wiele et al, 2015). Such attributes are aligned with general principles of T&L conduciveness for employability as presented in the literature and "this has been evidenced through institutional research that was undertaken to map the courses against these criteria" (P1.1, P1.2, P1.8). P1.1 and P1.3 confirmed the notion of employability conducive T&L practice at the institution by stating the appropriation of "varied T&L practices to realize the curriculum design the institution has committed to, inclusive of work integrated learning, work placement, site visits, guest speakers, experiential learning and the general concept of applied education whereby it is all about reflective learning, evidencing ability to apply knowledge, being a team player and be able to operate in an authentic environment inclusive of its contextual uniqueness".

"In the Marketing Major (Year 3 and Year 4 in the Bachelor in Business programme) many of the courses involve existing businesses that present real life problems to the learners to which they require a solution, but this is generally the case for other majors and other programmes as well" (P1.1). This is typically tackled through assigning teams to the provided problem. The problem is being unpacked, required knowledge and skills to solve the problem are being identified, solutions are generated and evaluated, a solution is selected and then presented back to the organization at the end of the semester. The knowledge required to tackle the problem

builds on existing knowledge alongside new knowledge that is introduced as the course progresses. Each of the courses typically incorporate the need for research (secondary or primary) in order to have a justifiable and credible basis on which the solution is being built (D1.6, P1.1, P1.8). In support of the argued validity of the T&L practice towards being employability conducive, the assessments and delivery methods have been mapped against the eight employability skills (D1.4). Employability skills are often "not explicitly assessed because that would put them in isolation of the context in which they are being appropriated by the learner" (P1.5). "The nature of the T&L practice in terms of delivery and assessment allows for an implicit uptake of such skills by the learners" (P1.8). "The mapping exercise reported in the quality assurance self-review document (D1.4) gives a "clear picture on how our curriculum design and development mechanisms consider the inclusion of employability competencies" (P1.1) around "the 'being' component of how we see our transformation process to contribute to learners' employability" (P1.3).

3.2.1.1. Final semester industry project

As a graduation requirement from each major the students are required to complete a mandatory final semester industry project which is the most authentic, student centered, problem-based and work integrated learning experience the student will have undergone throughout the academic career at HEI1. "The only way we can realize true authenticity in our programme is by providing our learners with real life, on the job, working experience. Each student in the business degree programme will have completed an industry project as the ultimate graduation project" (P1.6).In the final semester teams of two or three learners from the same discipline are expected to operate as associate consultants to an assigned client and produce a solution against a

formally articulated brief. "Compiling teams from across business majors or even programmes is challenging in order to find good projects, but it is certainly something we have been thinking about" (P1.1). "Cross disciplinary exchanges allow for meaningful exchange of ideas and viewpoints and add to the authenticity of the learning experience" (P1.7). The project briefs result out of collaboration between the faculty and the client and outlines clear deliverables for the project which more often than not includes an aspect of implementation or testing of a solution in a real life environment (D1.6, P1.1, P1.8). The project has a level of structure in terms of process and deadlines, but leaves a great deal of autonomy and independence to the teams to drive their understanding of the problem and development of the solution (D1.6).

The teams of consultants start by developing a project plan according to project management principles learned in an earlier semester and work under the supervision of an academic and industry supervisor towards their output. This project plan is a formal, early assessment component of the course that addresses not only technical knowledge in the field but also the ability to effectively deconstruct a problem, plan and outline a detailed process to develop a solution that is justified, credible, impactful and relevant to the client. Throughout the project "the focus is on learning new and revisiting acquired knowledge that is appropriate to the client problem and applying this knowledge towards developing a meaningful, impactful and viable solution for the client" (P1.1). This knowledge typically spans across multiple subdomains of the Major discipline and other general business principles. In order to realize this, the project team must actively use general competencies of being an aspiring professional alongside their technical knowledge and abilities. Throughout

weekly meetings the teams present progress in the realization of the solution by means of face to face meetings with their academic supervisor and presenting evidence of a minimum of 40 hours of work performed towards this project (D1.6). These progress meetings are conducted in a manner that is in line with the associate consultant designation the learners receive at the outset of the project. The teams are expected to run the meetings and report to their senior consultant (i.e. the academic supervisor) about their project progress. During these meetings they are formally assessed on a variety of competencies such as communication, teamwork, self-management, learning and planning and organizing (D1.6). In parallel their approach to solution development and the solution itself is being discussed, evaluated and critiqued through questioning against criteria of appropriateness, effectiveness, credibility, logic, relevance, viability, meaningfulness and impact.

Around the middle of the semester, the learners are subjected to an individual viva assessment (D1.6), whereby they are expected to show their understanding of the project and awareness around what the team is doing. This includes a self-reflective component around operating as a professional framed by the institutional employability skills framework.

The final assessment of the project includes a final deliverable (typical in the form of a consulting report and/or other outputs that were created e.g. an accounting system, a digital marketing content calendar, a performance appraisal system, a manual, etc.) and a 30 minutes presentation (D1.6). The presentation is being developed on the back of feedback given by the academic supervisor upon evaluating the final deliverable typically two weeks prior to the presentation. The presentation is expected to be client oriented and is conducted following the associate consultant

designation whereby the teams pitch their solution towards the client. The client is part of the evaluation of the work by a formal inclusion in the final grading of the learners by partly scoring the presentation and by scoring the work readiness of the individuals from their perspective considering the total time span they have interacted with the team members. The latter takes form of survey in which a variety of behaviours in line with the institutions employability skills are being scored on a Likert scale and a final expression of work readiness is assigned comprising of a qualitative and quantitative evaluative statement by the client (D1.6).

3.3.   Theme: Support Services

The supporting activities towards the development of employability are delivered by the Career & Employment Center, Work Integrated Learning (WIL) support and Industry Relations, the Alumni department and the Marketing department. Only the Career & Employment Center interfaces directly with students, the other activities operate as support mechanism to the institutional transformation process. The contribution of support services to the development of employability holds intuitively most potential through the career and employment center and the work integrated learning support, and this is not any different for this institution. "It is important to have a designated career support center, because career development is a complex thing that is logically best handled at the institutional level" (P1.4). "The connection with industry is important, the more exposure our students get, the better they will be prepared when they make the transition. "(P1.6). "We offer applied education … this must incorporate experiential learning … and if possible in an authentic setting" (P1.1, P1.3).

3.3.1. Career and Employment Center:

This unit consists of three people and has a stand-alone facility in the heart of the campus. They organize a variety of activities according to a yearly plan that includes events, workshops and standing services which are communicated to all internal stakeholders by means of a dedicated page on the LMS (P1.9, O1.3).

Events

'Industry talks' are events that happen throughout the year where people from industry are invited to address the total student body around topics that concern the workplace, operating as a professional and career opportunities. Yearly, the career center organizes a formal 'career forum' or 'recruitment campaign' where a variety of employers from large and medium sized firms are present on campus allowing current learners and past graduates to do job interviews with these prospective employers and where fresh graduates are given the opportunity to deliver an elevator pitch around their professional profile to a captive audience of 20 to 30 hiring companies (D1.3).

"This is a very nice opportunity for learners to get direct access to a variety of firms who are committed to hiring young Bahrainis. This is the most successful collaboration with industry we have that gives us direct result around employment" (P1.9).

The Career & Employment Center also launched an employer survey forum where it aims to survey existing employers of graduates around how they are performing as employees (P1.3, P1.9). "We aim to evaluate how the graduates are perceived in terms of their employability skills by their current employers through the eyes of the direct supervisors" (P1.9).

Workshops and standing services for the student body

The dedicated page on the LMS provides a variety of information around career and employability which targets students but is accessible to all internal stakeholders (O1.3). This includes the institutional set of employability skills, the semester calendar of weekly held workshops, a dedicated section for upcoming activities, a download section with support materials around job search (employment and salary trends in the GCC, CV template, cover letter template and interview tips), an archive section covering materials from past years, imagery of the centre's 1 on 1 and group services and a section with workshop materials.

The workshops are largely in line with the employability skills set of the institution and cover: communication, problem solving, teamwork, personality, decision making, time management and marketing the self. There are also workshops that tackle career competencies in particular such as interview techniques, cv writing, how employers hire and career planning. "At the moment we are the only section in this institution – to our knowledge – that addresses career competencies. True involvement of the center in curriculum would be good to make this part of the formal learning process" (P1.9). "We are currently falling short in addressing career competencies in our programme … it is implicitly there to an extent … the career center is there to address this" (P1.1).

Standing services to students cover dissemination of job vacancies or internships (non-curricular related), individual or group career counseling services and a 'career voyage test' to explore suitable career aspirations (P1.9). Communication around job vacancies and internships does not only target current

learners, but also graduates. "Through our own database of graduates we are able to support graduates who are job seekers or consider career moves" (P1.9).

Interaction with internal and external stakeholders

The Career & Employment Center holds a significant role in embodying the core purpose of the institution to external stakeholder, specifically potential learners and employers. In this capacity "we are a support service to the institution as well as for learners" (P1.9). The interaction with the other departments in the institution is rather limited, but the work the department does is considered as purposeful by all interviewees. In terms of information flow, the center seems to operate at a level of reporting on its activities when asked to. "The input of the career center to our programme is limited to an orientation session for professional behavior at the start of the final semester industry project … this is a good session for learners to shift their self-image from student to young professional." (P1.1). "The career center is a very useful connection to industry to identify guest speakers to address our learners either in or outside of the classroom… this is valuable … it adds to the authenticity of our programme" (P1.8). "The career center offers valuable services to our learners and gives the institution insights around what type of skills and competencies are needed by industry so that we can inform our institutional curriculum development approach to be clearly aligned with what industry is looking for" (P1.3). "The involvement of the career center in orientation sessions at the start of the programme is valuable to set the tone of what we are about in this institution. From the beginning the context is set and the end goal is clearly presented to new joining learners"(P1.7). The institution is making efforts to integrate the Career & Employment Center closer into the academic side of the transformation process through aligning it with the academic development

department. "The academic development department is working with the Career Center to develop a more structured exchange of information to improve our academic offerings to our learners" (P1.5).

The Career & Employment Center finally also supports recruitment of future learners for the institution in two ways: school visits and community programmes in schools (P1.9). The school visits happen in collaboration with the Marketing department in order to showcase and promote the institution as a desirable option for further study to school leavers. "We very much promote the idea of career and personal development as the core of our institution… it is our competitive advantage" (P1.9). In terms of community service, the career center has been engaging in sharing good practice around career counseling in different schools in order to raise awareness around the importance of appropriate career counseling through guidance for future study or work opportunities as the moment of completing secondary school education. "This helps not only the schools and the community to understand the importance of career, what that means and how that works, but it also gets learners to think about career and that association may connect them more easily to our institution, because we are all about employability" (P1.9).

3.3.2. Alumni

The alumni unit has only been recently established in the institution and does not seem to have much operation yet even though the importance of continuous support for graduate is recognized by all interviewees with a specific notion around "the requirement of reasonable software support in order to fulfill this function effectively" (P1.2). The institution is close to launching an alumni survey that aims to track the graduates and their career path as much as possible (P1.2, P1.3).

This can be used as a feedback mechanism to evaluate the programme, but at the same time to build a network for the institution to enhance its relation with industry.

From the interviews and document analysis through the document management system, there was very little to no evidence of an active alumni unit. The office exists, yet no-one responded to a call for interview.

3.3.3. Work Integrated Learning (WIL) and industry relations

The Business School has a WIL Specialist who takes care of industry relations in terms of its interface with curriculum. This administrative position is a key component in facilitating the collaboration between industry and the faculty in order to enhance the authenticity of the transformation process. "The WIL specialist is charged with the finding of companies for final semester industry projects in particular… this individual is an important bridge with industry for our faculty " (P1.8) "It might be a good idea to perhaps have an employability specialist for each programme too" (P1.7, P1.8).

The WIL role fits as part of a larger office of industry relations that was only recently formed and looks after the institutional relationships with industry and is charged with "the identification of MOU opportunities, help in identifying useful data points to further align programmes with industry, identify general skill gaps in industry, find sustainable ways to get funding for programmes through industry partnerships, etc. Industry liaisons hold the best position, due to their networks, to be able to bring back the real information around what industry is looking for and needs" (P1.6).

3.3.4. Marketing and Communications (MARCOM) Department

The MARCOM department governs communication about and around the organization and uses employability as a fundamental hook to produce content (PD1.2). The online presence and offline promotional materials make reference to the fundamental idea of employability that the institution espouses in the form of success stories from graduates, current students, faculty or institutional collaborations in the realm of employability and the general idea of shaping the workforce of the 21st Century. "Marketing helps us to get our success stories in the local media" (P1.1, P1.2) and "celebrate the transformation of our graduates to employers" (P1.9). "Marketing is the best avenue to get consistent communication around what we do out there"(P1.3) "This helps to build credibility round the institution not only to our primary stakeholders" (P1.8)," but also to the wider community, which is very important considering the size and connectedness of the society we are part of" (P1.6).

3.4. Theme: Employer Engagement

In order to realize its goal of developing employable graduates the institution has, from its inception, chosen to prioritize the relationship with industry. "We see employers and industry as our partners rather than just the demand side for our product, our graduates" (P1.5). These partnership links with industry are developed around three main objectives: 1. understanding the market to create relevant programmes, 2. delivery of the programme in ways that provide authentic learning experiences for the learners, and 3. endorsing the programmes. "Employers are key towards input, process, evaluation of output and endorsement of our efforts" (P1.5). "The engagement of industry in our process is very dynamic and interactive…

industry is used in consultation for programme design, provision of authentic learning environments, delivery of our programs and evaluation of our courses" (P1.3). "The opportunity of working with industry is particularly strong in order to validate our programmes from a quality assurance perspective" (P1.2). "Strong industry engagement is part of academic accreditation requirements" (P1.7) but at the same time also opens up the avenue to align programmes with professional certification (P1.6, P1.8). As is evident from the information presented above, the notion of employer engagement is interwoven in many of the activities the institution undertakes to carry out its mandate.

In any interaction with industry, the purpose of employability is clearly the central tenet of the conversation. "In reality we are constantly pitching our programmes and institution towards industry as the right fit and the first choice provider of the new workforce for this country … we have become quite confident in being selective and pushing for commitments towards employment when we are discussion industry projects"(P1.1).

3.4.1. Understanding the market

The institution has engaged in a variety of consultations with industry through studies that were done by external entities but also through internally driven research (D1.3). "Consultation with industry is a formal part new programme development (P1.4)". In order to develop a graduate profile that is relevant and meaningful. "It is important to understand what is currently happening in industry, where the gaps are and what type of knowledge workers are needed" (P1.1). "Industry is the ultimate data source to identify the skills and attributes that are valued by employers" (P1.6, P1.9).

Each school has a Curriculum Advisory Committee (CAC) where standing industry members periodically meet with programme managers and representatives from the Industry Relations unit to discuss and evaluate the relevance of existing programs, needs for change and the development of new programmes (D1.1). The CAC functions as an ear to the ground when it comes to understanding the wider context in which the graduates are or will be operating as well as domain specific developments that are currently happening in the market. "This involves discussions around courses offered, content within the courses and assessment methods" (P1.1). The selection of these committee members is significant, because industry people do not always understand the complexities of a learning environment, curriculum design and educating people (P1.6). This type of committees are nevertheless a strong argument for quality assurance that the programme is in touch with the reality of the local market (P1.2) and give the institution assurance that what it is doing is going to be meaningful for the learners. "Exposure to industry and their involvement in what we do gives our faculty strong confidence that what we are doing is relevant and on target "(P1.1).

3.4.2. Delivery of the programme

A first and direct link with industry in terms of the delivery of the programme is the fact that the faculty has been recruited on the basis of their industry experience (P1.1,P1.5, P1.7, P1.8). Throughout the programme, the courses become increasingly more authentic through the more intimate inclusion of employers in the course work by means of industry visits, speakers in class, companies operating as clients for a course, work placements, or the final year industry project whereby students work very closely with a designated client on a consulting project to address

a real life problem (D1.6). "Industry partners in the delivery of our programmes are clearly briefed around what we do because they need to be familiar with the language and viewpoint of the institution in terms of employability" (P1.6). "From the Major years onwards employers are intimately involved in the delivery and assessment of the courses we offer in the marketing major… since short we even have companies that present us with projects that span across multiple courses e.g. marketing research and marketing planning. This helps the students to understand the intricacy of the discipline of marketing in a real life context" (P1.1). The networks are built by means of the industry relations unit or personal connections of the faculty. Once the connection is made, the faculty typically takes over to give the curricular context in the field of study. "We work closely together with the WIL specialist and industry liaisons to extend our network, but at the same time we also use our personal contacts since a lot of our faculty have local industry experience" (P1.1). "Developing the core of the projects resides fully within the faculty who drive the collaboration with the industry partners" (P1.8).

3.4.3. Endorsing the programmes

The proverbial 'Litmus test' around whether the institution is fit for purpose inevitably involves "the uptake of the graduates in the (public or private) labour market be it as employees or as self-employed" (P1.5, P1.7). "Destination data collected through third party research are hard to come by or very low in granularity" (P1.5). Industry engagement is considered important as a quality indicator of the programme (P1.2) whereby through feedback on the performance of the graduates, the institution closes the loop around whether its programme is sound (P1.3). One objective of the relations with industry is that they will see the return on investment of

their time and effort with our students in terms of a recruiting mechanism (P1.1, P1.6, P1.7). The close interaction with industry in the final semester industry project is a strategy that holds a lot of potential towards employment upon graduation. "A variety of industry projects have eventually lead to employment offers to and actual employment of our graduates … after graduating six cohorts of students we start now to see familiar faces around the table when we sit down with companies to discuss industry projects … this makes it easier for us to convince the clients, since they have been through the programme and understand its value" (P1.1).

3.5. Theme: Quality and Measurement

The institution has a Quality department that governs institutional quality and a quality manager per programme (D1.3). Quality governance translates itself in eight general policies to address the corporate side of things and twelve general academic policies (PD 1.1, D1.3). The corporate policies that link directly with a holistic approach to employability development are those with regards to Marketing and Communication on the one hand and Review, Evaluation and Improvement on the other hand. That being said, employability is not directly addressed in these policies, but they can be argued to set a conducive frame to the realization of employability. The academic policies that concern employability are Programme Approval, Naming and Awarding Qualifications, Attendance Policy, Students Rights and Responsibilities, Student Admission, Credit Recognition, Enrollment and Academic Progression, Collaborative Educational Arrangements and finally Student Support. Even though the academic policies outway the corporate policies in direct connection with employability, the institutional quality department approaches quality from a

more corporate perspective, which does not put T&L per se central to its evaluation of quality of the institution's performance and consequent improvement (P1.4).

   With respect to employability, which in essence can be considered a critical indicator of assurance of learning, the organization still feels challenged to be able to evidence the development of employability (P1.2, P1.4, P1.5). "At the moment we are mostly using destination data to argue the overall quality of our programme in respect to employability… data is about objectivity and accuracy, and at this moment we rely mostly on governmental data around our graduate destination … we are developing some internal mechanisms to capture our own data, but logically third party data is more trusted by external stakeholders" (P1.5). "We have an institutional and programme quality review cycle in place, but the inclusion of employability in that is at the moment rather implicit and consequential instead of explicit." (P1.2, P1.4). "The programme manager for quality helps to get a deeper level of understanding around what we do as a school … the focus is very much on process with an expectation of quality outcome … employability is slowly getting a place in that though" (P1.1). "The new annual programme review process has included a question around employability, which will help us to give it a more central place in the evaluation of the programmes and their effectiveness to deliver on our promise" (P1.4). "We are working on a process to clearly identify and measure the impact of our T&L practices on employability, but this is still in developmental phase "(P1.2, P1.3) "at the moment we are stuck at mapping of course documentation against the employability skills "(P1.1, P1.8).

3.5.1. Measurement Systems

There are a variety of instances in the institution's operations that allow for the capturing and use of data to measure quality of the employability development process and consequently govern for it (Table A-4), but this is, even though often times directly addressing employability, more often than not happening outside of a deliberately orchestrated and systematic approach that includes analysis and actions for improvement. "When it comes to employability, there is a clear need for a more systematic approach towards understanding what we are doing and how we are doing it" (P1.2, P1.3, P1.7).

Instance	Level standardization	Level of practice	Frequency
OKR system	Institutional	Throughout institution	Bi-yearly
Formal review cycles	Institutional	Institutional and programme	Semester (courses) and annual (programme)
Tracking of academic performance	Institutional	Course and programme level	Semester
Student satisfaction survey	Institutional	Course level	semester
Staff and Faculty needs analysis as part of the PEP	Institutional	Institutional	yearly
Approval processes around programmes and courses	Institutional	Programme	ongoing
Tracking and managing course documentation	Institutional	Programme	Ongoing

Instance	Level standardization	Level of practice	Frequency
Input from curriculum advisory committees	Institutional	Programme	Yearly
Periodic external validation panels (accreditation, external validation panels, professional accreditation alignment)	Institutional	Institutional and programme	When required
Measuring effectiveness of support services – attendance of events and outcomes	Institutional	Department	Semester
Scholarly Research by enthusiasts at programme level	Institutional	Major / Individual	Ongoing
Mapping of course documentation against ES framework	Programme	Programme	Ad Hoc
Reflective statements by students around programme and employability	Programme	Programme / Major	Ad hoc

Instance	Level standardization	Level of practice	Frequency
Data from supervisors in industry project (formal assessment of students – more quantitative than qualitative)	Programme	Programme / Major	Semester
Audits for specific topics	none	Institutional and programme	project basis
Benchmarking practices	none	Institutional and programme	unknown
Destination data of graduates and tracking professional performance	In progress – to be institutional	Undecided – Currently institutional and per programme by choice of the PM	Currently ad hoc but working towards systematic approach for institution
Employer satisfaction survey	In progress – to be institutional	In progress	In progress

Table A-2 HEI1 Employability Measurement Systems

3.5.2. Data

Currently captured data around how the organization addresses

employability is fair and includes interesting sources, however a coherent and

integrated approach to collection, analysis and use is absent and the level of

granularity is overall rather low, which leads to inconsistent or non-use of data in

decision making.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
some general destination data on graduates (employment)	Quant	Unclear	Low	Unclear	Considered to be too limited and needs higher granularity (P1.2 -8)
mapping of employability skills in the course documentation (assessment, delivery and LO's)	Quant &Qual	Attempt in progress	Inconsistent	Inconsistent	Mapping needs to be consistently in depth in order to make clear decisions (P1.1, P1.2, P1.8)
Employability skills evaluation of to be graduates	Quant and Qual	Yes	Rather high	Inconsistent	The data needs to be consistently analysed (P1.1)
Academic performance of learners	Quant	Yes	Course level	Yes	Academic performance is only a partial indicator of employability (P1.7). The final semester project is the real test (P1.1, P1.6, P1.7).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Learner point of view (2 questions in a 15 item course review question survey)	Quant	Yes	Low	Unknown	The view of the learners and graduates around how our transformation process impacts their employability needs to be captured better (P1.1-8).
informal statements around the performance of graduates (anecdotal)	Qual	No	Unclear	No	The view of learners around how their learning affects or has affected their employability is very important (P1.4).
staff profiles	Qual	Yes	Low	Yes	The industry and academic experience and expertise is critical to deploy people in the right manner (P1.1, P1.5, P1.7, P1.8)

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
QAAET evaluation	Quant and Qual	Yes	Medium	Yes	It is a strong endorsement of our programme (P1.2, P1.4, P1.5)
external validation reports	Quant and Qual	No	Medium	Yes	Feedback from external validation is being reviewed, analysed and incorporated in the QIP where felt appropriate (P1.2, P1.7, P1.8)
professional accreditations	Qual	Unclear	n/a	Inconsistent	Professional accreditation is another valuable endorsement of our programmes (P1.1, P1.2, P1.5-8).
provision of authentic learning experiences to learners	Quant and Qual	Yes	High	Yes	The more authentic the learning experience, the better its impact on employability (P1.1, P1.3, P1.6-8).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
endorsement by industry	Qual	No	No	No	We need to leverage the testimonials of industry more through PR and Communication around our programme (P1.1, P1.8). For our final year industry projects, we are very considerate towards working with companies where we feel confident around potential for employment (P1.1).

Table A-3 HEI1 Employability Measurement Data

3.5.3. Communicating Quality

Even though the institution strongly believes that its transformation process is conducive to employability, it recognizes that this belief may quite quickly be interpreted as an assumption in a context of quality review and assurance. "We need to develop a better understanding of the know-how around our transformation

process through more in depth analysis"(P1.3, P1.5, P1.7)."It is about being able to equate the reality to our promise … if our (Learning) outcomes are aligned with industry, and these outcomes are met, then employability in terms of our skills is consequential … so it is a question of embedding employability effectively in the curriculum, rather than focusing on how to measure skills" (P1.5). "At the moment we carry the implicit assumption that there is uptake of employability skills because our process (development and assessment) is mapped" (P1.1, P1.4, P1.8) … "we lack detail and consistency in our current approach around attempting to evidence how the process realizes employability"(P1.1, P1.3, P1.6, P1.8). "A set of formally agreed metrics of both qualitative and quantitative nature " (P1.2-5, P1.8) and "an appropriate level of granularity is required in order to measure the process correctly and sustainably "(P1.2, P1.5) … "this includes triangulation of learner, employer and institutional data to make a sound and trustworthy case" (P1.1-P1.4), "a clearer and more meaningful understanding of labour market data inclusive of the economic impact our graduates make, their productivity … "(P1.3-5) "but also an understanding of the market for the future" (P1.8). "Employment is not enough, our product needs to end up in jobs of high quality standards" (P1.5). "A formal system in place can be expected to trigger more meaningful conversations around the topic" (P1.2) but "this requires field (e.g. employability in HE) specific expertise in the matter" (P1.1, P1.4, P1.7, P1.8)."The next step after knowing what is to be done, is to figure out how it can be done … " (P1.3) because "quality checks and reviews should be about improvement, not compliance" (P1.2,P1.4, P1.7-9).

The communication mechanisms around quality exist through internal reporting of data following reporting processes in line with review policies and

processes. The challenge seemingly lies not only in collecting the data and reporting it, but even more so "in meaningful interpretation of it so that it then can be disseminated back into the institution in an effective manner"(P1.3). Such a situation risks the danger that more is being reported than is actually received back into actionable directives. "We send a lot of information up the chain, but get little back …. Our systems are not consistent and structured enough to report on employability" (P1.1, P1.3). The organizations has a variety of boards and committees that meet on regular basis where information exchange is possible, but the exchange of information seems to lack effectiveness. Quality assurance reporting seems to be a strong impetus for data and information to start flowing around the organization. "When matters arrive at the QAA agenda, they get priority and will be done" (P1.2).

Communication around quality with external stakeholders such as quality assurance agencies and industry is also challenging. "Communication around quality and employability is partly image building and partly evidencing the finer detail of what we do" (P1.3) but seems to be little around getting guidance around how to do better once a certain level of sophistication is met.

Communicating quality for accreditation purposes concerns different audiences that may have a different frame of reference around educational quality and employability. "The institution has opted to pursue two types of accreditation: academic and professional" (P1.8). The first external port of call in terms of accreditation is the national level quality assurance agency and since recent the national qualification framework. The requirements around employability are rather limited as compared to requirements for institutional quality structures and more traditional notions around assurance of learning. Since developing employability is a

central point of difference (and from the institutions perspective an indicator of quality) yet this is not always that easy to evidence in terms of more traditional academic concepts, the communication requires a lot of elaboration and convincing argumentation. "What we do is very progressive for this educational system, and is not very well understood … we are probably also not very good at explaining it yet … it does not mean that when it is clear to us, that is clear to everyone" (P1.2). The requirements of accreditation drive institutions to formalize, systematize and make its operations procedural. Given the contextual nature of employability for each professional domain, finding a balance between generic enough approaches that leave room for contextualization and clear structures that allow outsiders to see consistency to the right level of detail is challenging. The central position of employability in the institution makes it a topic that constantly needs to be included in reporting around quality assurance elements which in more traditional institutions may be merely academic in nature.

A second audience in the accreditation domain is the professional accreditation agencies, which have their own requirements, which do not always clearly align with institutional philosophy (Problem based Learning and Problem based Assessment vs standardized content based tests e.g. Accounting certification) (P1.8). This adds and added layer of complexity around staying true to an institutional course and yet falling in line with such requirements. It needs however no elaboration that a programme which can attach professional certification to its award (et ceteris paribus) is a step ahead in producing employable graduates than one that does not.

A third form of external validation of the programme is an exercise of good practice whereby external validation panels are being invited in order to evaluate both

institutional and programme specific practices. In the same vein, the understanding of such panels around how this institution is operating is key towards having an objective and meaningful review. "External validation panels are a good exercise towards national and international accreditation reviews, however, it does not mean because an external panel commends our work that similar judgment will be passed by others … and the opposite is also true, because an external panel recommends something, does not mean we have to follow this recommendation blindly, our way of doing things does not come out of thin air" (P1.2).

  Communication with industry around the quality of the institution happens on the one hand through its consultation sessions in the Curriculum Advisory committees, and on the other hand through interactions of the institution with external industry in search of partnerships of various sorts. "Industry does not always understand the finer detail of how we approach employability, and looks more at their own contextual requirements as companies and their market" (P1.6). "When we talk to industry, we constantly pitch our programmes and its quality; we constantly use our employability focus as a way of making what we do relevant for the businesses who are looking for recruits" (P1.1, P1.8, P1.9). Curriculum advisory committees seem to be an effective bridge to communicate with industry, but its members have a stronger understanding of what the institution does, compared to outside employers. It can be expected that the members of the committee would endorse the programmes and institution in their professional and personal networks consequently, but there is no evidence around that. "Industry endorsement is one of the strongest arguments around quality that an institution like ours can wish for, because they represent the demand side for our product" (P1.5, P1.6).

APPENDIX 4 Case study HEI2

    1.   Case specific data sources

        This case, presenting the transformation process HEI2 has in place, is

primarily built on findings from interviews with 5 key informants and has been

further corroborated with information from institutional documentation, information

in the public domain and personal observation. The focus on the first data source is

due to constraints in terms of data access as a result of limited time on site to build

relationships. Furthermore, most of the explicit information is either guarded by rather

stringent confidentiality considerations or is only available in the Thai. Translation of

its content was not deemed to be fundamentally required to ascertain the type of

information the case requires considering its purpose since the interviews revealed a

rich picture of the institutional approach.

        1.1. Interviews

        This data source concerns interviews with 5 key informants. The key

informants were chosen on the basis of their position, tenure and nature of

involvement in the organization (Table A-3). The respondents hold positions at director

or executive level in order to capture notions of both strategic and operational nature.

Participantnr	Position	Years Tenure	Key involvement relevant to this study
P2.1	Assistant to Vice President for Academic Affairs	15	Managing the general academic direction of the institution and liaising with a variety of other departments such as careers office, student welfare and international office.
P2.2	Director, Educational Service&Student Welfare office	21	Responsible for the connection between institution and industry. Support graduates and to be graduates to find jobs. Facilitating the development of career competencies through workshops, events and personal interactions with students. Supporting the Work Placement office and liaising with the Academic Affairs office towards the employability indicators for Quality Assurance and institutional strategic accomplishments.
P2.3	Head, Counseling & Job Placement Department	26	Liaising with career counseling office and academic affairs to place students in authentic learning environments and the inclusion of industry in the transformation process of the institution. Key player in the development of the collaborative education track.

Participantnr	Position	Years Tenure	Key involvement relevant to this study
P2.4	Associate Dean for Student Affairs, HEI2	12	Organizing student life on campus through extracurricular activities in line with the organizational goals and values. Liaising with the Academic Affairs office for information exchange around extracurricular activities and credit earning. Issuing activity certificate to validate extensive participation in student activities.
P2.5	Director, International Affairs office	18	The international office deals with international context of HEI2 which is considered as a fundamental component of its identity and mission towards creating well rounded graduates with international acumen for a globalized world.

Table A-4 Key Informants HEI2

1.2. Internal Documentation for which access was provided

- a Quality assurance report (referred to as D2.1).

1.3. Information in the Public Domain

- the institutional Website (referred to as PD 2.1).

1.4. Observation during site visits

The researcher visited the campus during his short visit in the time frame in which the interviews were conducted. Notices (referred to as O2.1) were observed around campus of which the content concerned employability related notions.

2. Background and concise context

HEI2 is the international wing of its mother university in Thailand and subsequently aligns with the general position of its overarching institution. Founded in the early 60's, this institution was one of the first private universities to open in Thailand. Its starting motto, that carries through to its current operations is "Knowledge with Virtue" whereby it assumes a holistic perspective around what education and higher education is all about. "We are trying to develop balanced individuals … it is not just about knowing things but also about how you deal with that knowledge, and how you act on it" (P2.5). "Employers do not look at GPA only anymore, they care about attitude and being an engaged and committed individual" (P2.4). With currently over 100.000 graduates and a current student body of around 27.000 students, it offers academic degrees ranging from Bachelors through Masters to PhD in various fields of specialisation.

To be purposeful for this study and keep a clear focus, this case considers HEI2's offering of undergraduate programmes. HEI2 offers a variety of 4 year study programmes that span across a variety of disciplines: Graphic Design and Multimedia, Entrepreneurship, Marketing, International Tourism Management, Hotel and Restaurant Management, Business English and Communication Arts. As of February 2016 the total student body count exceeds 1,800 students.

HEI2 prides itself around its considerable history in Higher Education (HE) in Thailand and for the alignment with the professional and societal needs in Thailand and the world (PD2.1).

"The first thing we did when the university was founded in the early 60's was to progressively establish international standards in our curriculum and an administrative system based on the professional demands in Thai society and the world. … Our aim is to produce graduates who are leaders in their fields and able to apply problem solving solutions in the real world. Moreover, they also need to be skilled in international communication to compete in the global challenges that affect all of us." (PD2.1)

The institution puts employability quite central to its raison d'etre in reference to the graduates it aims to produce and the type of meaningful future it aspires for them. Each of the programme descriptions concisely outlines the type of careers that potentially connect with this (PD 2.1). "Employability is the evidence of whether we as an institution, do our job well or not" (P2.4)

The institution further reiterates a significant focus on communication and internationalization and places the learner central to their academic journey.

-   The institution recognizes the need for internationalization in a globalized society, economy and world. "English is an enormous advantage in terms of employability in Thailand"(P2.1, P2.5) and it was further noted to be a strong influencer of securing good salaries at starting level (P2.1). Online content around the institution addresses English proficiency quite explicitly in relation to its value in today's world by statements such as "Why go abroad when you can improve your English at HEI2 International", "(HEI2 offers) an international program to prepare

students for success in this highly demanding and competitive world**"** and **"(**the

students**)** will also increase their knowledge and skills in the usage of English**.** Our

distinguished professors include Thai and foreign nationalities**"** **(**PD2**.**1**).**

- Real world experience in an international context is also placed

central to the identity of HEI2 whereby 'international friendships' are introduced as a

way to allow both faculty and students to enjoy international exposure inclusive of the

presence of international students in HEI2's programmes (PD2.1).

"Internationalization is a core identity for HEI2 … we have around 900 international

people on campus … the inclusion of international students is hoped to inspire local

students to get curious about international careers" (P2.5).The content on the website

also promotes the idea of a multicultural and international student body in the

representation of the institution through imagery and statements. "(HEI2's) creative

and vibrant atmosphere is catalyzed by students from diverse

backgrounds,nationalities and nurtured by talented and resourceful faculty members"

(PD1.2). HEI2 holds a variety of affiliations with universities abroad for student

exchange programmes covering Central and Northern Europe, USA, Oceania and the

Far East (PD1.2).

- Its T&L approach is one that strives to become student centered by

moving away from a traditional approach of rote learning in order to develop well

balanced, confident and self-aware graduates when they move in the professional

arena. "… the students are stimulated to think creatively not only about the subject

matter but also about his or her own needs in the educational process. Bangkok

University strives to make students the centre of their own education so they become

confident adults who are eager to enter the various professions in their fields and are

able to implement new innovations that address the complexity of today's society."
(PD 2.1).

3. Employability transformation process

3.1. Theme: Leadership

3.1.1. Strategy

Even though there is no formal explicit institutional definition for the concept of employability, HEI2 clearly outlines three identities it believes to be fundamental for its graduates to be employable in the 21st Century: creativity, entrepreneurship and internationalization. "These three elements are what we could say is our institutional DNA, what we are about and what we aspire to realize in our graduates" (P2.5). "This DNA is part of the culture of the organization"(P2.4). The fact that the mother university - and by association HEI2 - brands itself as the 'creative' (PD2.1) evidences this to be a strategic choice towards differentiating itself in the HE landscape. "Image building is very important to get credibility with our stakeholders … " (P2.1, P2.2, P2.4, P2.5). "Creativity and entrepreneurship are two factors that strategically differentiate us from our competitors and build a good image … around 20 – 30 % of our graduates are self-employed"(P2.1). For HEI2, internationalization is considered a third key point, whereby internationalization through associations with various international HE institutions presents an additional differentiating factor in comparison to other HEI's (P2.5). "Strong exposure to international environments is what we aspire to, in order to let our students become internationally aware … We have furthermore recently launched a bilingual programme and have a Chinese programme in the pipeline … this is to be responsive to our target market and carve out a competitive profile in the market" (P2.5).

The term employability is primarily considered around the goal of getting graduates into jobs after their graduation. "Employability is not defined beyond the understanding that we want our graduates to find employment or be self-employed after graduation with a good salary and a good job" (P2.1). That being said, when considering the responses around the outcomes of the programmes, it is clear that employability is viewed in a rather holistic manner including meta-competencies as will be discussed in the this case's section that addresses curriculum. Employability is considered as part of the mission through the realization of the three identities (P2.2, P2.3, P2.4, P2.5). "The goal of employment within one year of graduation is an expectation that is set at the national level but HEI2 sees this goal as more than merely an index to comply with, it is our mission" (P2.2). "Developing employability takes time … we have a structured approach to this which includes a variety of operational and academic activities" (P2.5). As will be elaborated on in the following sections of this case this structured approach is evident through the provision of a variety of programmes and selected courses that are argued relevant for the 21st Century, the opportunity for learners to engage in an educational track that offers opportunities for real life work experience, a student centered T&L aspiration and a variety of support activities around career development. The institution is very adamant about its own identity and about the fact that they are different from other institutions, and places the embedding of the realization of creativity, entrepreneurship and internationalization as a priority in everything they do. "We are working very hard on crafting our own unique way in how we do things" (P2.1). "There is a 5 year strategic plan that aims to realize these three identities in our graduates" (P2.5). Furthermore, a close relationship with industry - and where

possible its inclusion in the transformation process in terms of design and realization - is considered a fundamental point towards the development of graduate employability. "We have institutional practice of bringing in outsiders to complement the academic side of things through support services and in the formal academic curriculum through guest speakers … there is budget assigned to this" (P2.1). "Our values need to be closely aligned with what young Thai graduates need to be successful and this can only be understood be being aware of our surroundings and the industries we aim our programmes at" (P2.5). "Interaction with industry helps us better understand what we should be doing" (P2.2)."This includes active exposure to - and experience with - the world of work through an educational track that is called collaborative education, where students can engage very closely with industry as part of the formal academic journey" (P2.4). Other than tapping into industry to build a stronger institutional approach, collaboration with other HEI's and relevant associations is also part of the strategy to enhance the transformation process towards employability. "We exchange know-how with other universities around how student activities can be organized … we have started to explore collaboration with international organizations to improve the international exposure for our students" (P2.4). HEI2 has a Center for Cooperative Education and Professional Development that shows association with the Thai Association for Cooperative Education and with the World Association for Cooperative Education (PD 2.1). "International partnerships help us to realize the internationalization and allow us to showcase credibility through endorsement of external partners" (P2.5).

3.1.2. Institutional culture

The institution has adopted the three identities approach since over a decade as an extension of the long standing motto of 'Knowledge with Virtue'. As with any form of cultural change, this transition takes some time and is subject to institutional inertia. "There is a clear understanding of the DNA by most of the institutional members … but building a culture around this DNA and employability takes time" (P2.5). The institution has taken decisive actions towards the realization of this cultural adaptation by means of providing training and development for its academic and administrative staff. "The institution runs a lot of in-house seminars for both academic and administrative staff to address the inertia" (P2.5). "Training for our staff is organized by the university on a yearly basis in order to improve our ability to support the students" (P2.2, P2.3). Aside from that the institution has an orientation programme in place for new joiners, which helps them to get socialized with the organizational culture and outlines the particularities of how the institution tackles its mission (P2.1). Each of the new joiners is expected to have a good command of English, which supports the realization of the identity factor of internationalization (P2.1, P2.5). The organizational culture is one of continuous improvement through self-review by faculty around the delivery of their courses, student review around their learning experiences and institutional reviews around support services beyond academic activities (P2.1, P2.2, P2.3, P2.4, P2.5) which will be elaborated on in the below discussion around measurement of quality. The majority of activities and perspectives around employability however seem to be addressed within the departments with limited exchange between the departments around how employability can be further enhanced. "Across departments there is not much

interaction around employability development other than exchange of information and supporting the promotion of support activities" (P2.1). The institution also houses a variety of environments that express the value of creativity such as an Center for technology and innovation, a gallery, a theater and amuseum (PD 2.1).

3.1.3. Decision making

"Employability is an overarching concept that guides our decision making at institutional level both on the side of academic and extracurricular activities" (P2.1). Decision making does not happen in a vacuum of industry and societal realities and such inclusion of current and potential employers in the decision making process is formalized through regular consultation (P2.1, P2.2, P2.3, P2.5). The information that is received from industry guides the decision making at institutional and departmental level. "Consultation with industry through focus groups and information from governmental reports feed a decision making mechanism that trickles down from executive management (Deans and Directors) all the way to the faculty and supporting staff" (P2.5). "For the schools, the Deans are the main drivers around decision making and action planning" (P2.1). This suggests the idea that the Deans need to be very well informed about the current state of the market and the future trends that are emerging, in order for the school to have a good alignment with the current and future demand for workforce. "Deans are present at the focus groups and therefore have first-hand insight around how employers feel about our programmes and the graduates these produce" (P2.5). "Most of our efforts are geared towards our current and future graduates in order to make sure we understand where they end up and to give them good chances to be successful when in the world of work" (P2.2). "Most of our decisions are based on statistics that sketch the picture of

the current employability of our graduates" (P2.3). "In terms of decision making budget is often a constraining factor" (P2.4).

KPI's and targets do not exist beyond traditional destination data. "80% employment after the first year is the national objective, and we are reported to have an average of 90% … graduates are our main focus" (P2.4). The institution however aspires to become a leading institution in its prorgammes and in its niche identities in the Thai HE landscape. "It is about outperforming other universities … comparing ourselves with them and doing better than them" (P2.2, P2.3). "It is a strategic goal for the university to become a leader in our three identities" (P2.5).

3.1.4. Communication around employability

Employability is considered a topic that can help develop meaningful and relevant communication with all stakeholders of the institution. The internal communication between departments is mainly around exchanging statistics and reporting according to the institutional requirements whereby the Academic Affairs office plays a vital role to connect both academic and non-academic sides of things. (P2.1, P2.2, P2.3, P2.4, P2.5). "Deans and Directors communicate with one another around statistics and other information that concerns employability and how this information is being sketched together with extracurricular activities"(P2.5). Informal communication is mentioned by all interviewees as a situation in which employability is often a topic of conversation. Furthermore, formal communication mechanisms exist in order to communicate to faculty, staff and students around what is happening on campus to support the realization of the three identities. "There is an institutional use of news-letters, blast emails, sms and posters to communicate what is happening" (P2.1). Various notice boards on campus mention

notions of employability in particular events on and off campus that relate to career (O2.1). Communication with students happens through online and offline mechanisms that include informal collaborative efforts between extra-curricular departments and faculty. "We need our faculty to promote our events, because other ways of promoting do not seem to have much success" (P2.4). Communication around employability is also something that can happen through the student body itself by means of informal exchanges among students. "Word of mouth is a good way of making students aware of the value of our activities" (P2.4). "We assume that the presence of international students will lead to exchanges with Thai students around culture and other inter-national topics" (P2.5).

Communication towards external stakeholders is mainly around industry requirements in order to align the programme with the reality and by building the appropriate image of the university by actively branding it as such. The marketing of programmes and the institution in general consistently uses employability related topics when addressing its audience through the three identities. "The DNA is a good hook to tell a story that is meaningful and represents what we do … we use of a lot of employability information to explain to our stakeholders that what we do is relevant and makes sense"(P2.5). "Image building is very important … parents and students consider this (employability) as very important when they decide which university to choose "(P2.1)."We are part of a societal culture that gives a lot of credence to branding in an educational context" (P2.5). "Marketing uses 'creativity' very actively as a differentiating element of our brand" (P2.4). The challenge to effectively use the online world in order to communicate around this topic to all stakeholders is recognized. "A lot of things happen online now, so we need to be aware of that when

we evaluate how we communicate with our students and other external

stakeholders"(P2.5).

3.2. Theme: Curriculum

3.2.1. T&L Philosophy

The curriculum at HEI2 is delivered through a model that includes

theoretical knowledge around the field of study and the application of that knowledge

through lab work or practica. "The school has a good balance of theory and practice

… experiential learning is getting more attention institutionally … students are aware

of its importance too" (P2.4). "We consider a combination of the theoretical and the

practical and this mix runs throughout the whole programme" (P2.1). In terms of

employability development, the extracurricular activities are seen as a complementary

component to the formal learning process through which career competencies are

being addressed via a bolt-on approach in the form of various workshops (P2.2, P2.3,

P2.4) or are embedded in events such as "running small businesses during festivals

that include real considerations around pricing, profit and logistics" (P2.4). "Career

competencies are addressed more at an institutional level, whereas field specific

aspects of employability are addressed within the schools"(P2.5). The programmes

are delivered by both full-time and part time faculty. The full time faculty is more

academic oriented, which is complemented by the use of part time faculty (P2.1, P2.2,

P2.4) that brings the industry background into the classroom (P2.4) or by the

invitation of guest speakers (P2.1). Getting part time faculty involved in projects that

address career competencies is challenging (P2.4).

3.2.2. Outcomes

The overall outcomes that the institution aspires to achieve concern a variety of field specific and industry relevant elements such as knowledge and competencies as well as personal attributes, attitude and disposition. "We try to deconstruct the three identities and infuse them in the learning experience we give our students … this often includes unlearning of habits they have acquired in their previous learning experiences"(P2.5). This evidences the consideration of a holistic notion around employability. Each of these outcomes is always considered in terms of their alignment with industry and the world of work in the 21st Century. On the side of field specific outcomes the interviewees mentioned: "good technical knowledge" (P2.1), "skills that are relevant to the industry and generic skills " (P2.1, P2.5), "to be employed or self-employed upon or soon after graduation"(P2.1, P2.5), "have an effective command of English, particularly for graduates from Humanities programmes (P2.1) … however this is getting a stronger focus institutionally too" (P2.2, P2.5),"a certificate that is recognized by industry to validate the quality of our institution" (P2.4) and"have acumen around the international and local work environment" (P2.5). In terms of the interpersonal and meta-competencies the interviews revealed: "a useful set of career competencies" (P2.1, P2.4), "be confident and inspired to start their career" (P2.4), "ability to be creative" (P2.4, P2.5), "an entrepreneurial spirit around being accountable, taking initiative and take ownership of their work" (P2.5), "be a whole person" (P2.5) and "have a sense of internationalization" (P2.5). The learning outcomes of the courses are "Industry aligned" (P2.1, P2.2, P2.3) and "depending on the course, directly address the more generic competencies such as problem solving, communication, etc" (P2.1).

3.2.3. Design and Development

The design of the programmes follows institutional policies that abide by national quality assurance standards (P2.1, P2.2, PD2.1) and are then evaluated by governmental agencies before deployment. Each programme is consistently designed in collaboration with industry by means of a programme specific industry steering committee, in order to assure the programme is relevant and produces graduates that meet industry requirements (P2.1, P2.2, P2.5) and is supplemented by input of faculty in order to address the technical and T&L context (P2.1 and P2.5). This industry consultation includes - where relevant – professional industry standards or government requirements (e.g. experiential learning hours for hospitality, particular requirements around engineering certification or specific software abilities for graphic designing) (P2.1, P2.5). "The curriculum furthermore tries to include as much as possible international and global practices in order to enhance the international exposure we want our students to experience" (P2.5). Since such design and development process concerns school specific contexts, the drivers of this process are Deans and Directors in each school, which gives a certain level of autonomy to each school (P2.5, P2.2, P2.3, P2.1). There is however an overall institutional ethos to "embed creativity and entrepreneurship in the programmes where this is possible" (P2.1) and this "includes its formal evaluation process of learning … (whereby) the curriculum can include a variety of learning approaches that are creative ranging from music composition to hard-line business practices" (P2.5). The office of International Affairs strongly supports the idea of "education convergence and creative convergence, whereby everyone can be involved in the development of the learning environment e.g. students, campus gardeners, etc. … there are no limits to how an

individual can learn and can be creative"(P2.5). The full time faculty is mostly

academic in their orientation to T&L and therefore "could be more creative,

international and entrepreneurial … but it takes time to foster this"(P2.5).

Educational Tracks

Since recent the institution offers its learners two options of

educational tracks to complete their degree: the general track and the collaborative

education track. The institution also provides a bi-lingual programme whereby

learners are encouraged to go abroad (P2.1, P2.5), and currently works are in place to

launch a programme delivered in Chinese (P2.5). In the general track the learners are

attending regular classes whereby theory and application are offered side by side. The

Collaborative education track "includes more preparation for the world of work"

(p2.4). The learners engage in their third year in an authentic learning experience

whereby they go through experiential learning on a company site around a project that

is directly related to their field of study. This track has a "formal screening process

whereby either the university finds projects for the learners or they propose their own

projects with companies of their choice … which must comply with quality standards

of the institution … and the students work is being evaluated by both an academic and

an industry supervisor" (P2.4, P2.5). The deliverables produced by the learners in this

component have shown to be "very valuable to the collaborating companies" (P2.4)

and often result in job offers, which "in terms of timing is an unfortunate issue in our

course sequence" (P2.4).

The collaborative educational track has only recently been introduced

but is suggested to be the more effective alternative to internships. "We used to run

internships and saw positive results towards employability, but the introduction of our

Collaborative Educational track is believed to be able to address employability much more effectively" (P2.1). "The value of more practical education emerged from student surveys, and this was considered for the redevelopment of some of the programmes ….The Collaborative Education track in particular is carefully guarded for quality by means of developing the project and carefully selecting the learners that go into the project and where they are going … the programme shows great early results in terms of learners and company satisfaction, but will need more time to grow in popularity"(P2.4). HEI2 is one of the first universities to venture into the more applied side of things. The applied education approach is common place in vocational training institutions, but certainly a differentiator in the university landscape. "When comparing and benchmarking ourselves against other universities we have noticed that we need to find new mechanisms to outperform them". (P2.1) "The profile of being creative and our practical approach to education is definitely a result of this realization." (P2.5).

Valedictorian component

At the end of each programme the learners are required to engage in a "post-orientation component" (also referred to as the Valedictorian component) which has its entire focus on future engagement in the world of work and the relevant career competencies (P2.4). This part he of the transformation process formally addresses aspects such as "professional behavior, job search, CV writing, industry expectations" (P2.1, P2.4, P2.5). "The post orientation programme allows our students to see how what they can fit what they have learned in a context of job search and professionalism inclusive of entrepreneurship" (P2.5).

3.3. Theme: Support Services

The institution organizes its support services around employability through student services that work closely together and consistently liaise with the Academic Affairs unit. The services are mostly extra-curricular and provided by four units (Career Counseling, Work Placement, Alumni and Student Welfare) in the form of: events around career and the institutional DNA, making connections for collaboration with industry, workshops and trainings on career competencies, internationalization opportunities and a formal post-orientation towards starting a career. "They support the office of Academic Affairs in realizing a meaningful learning offering and preparation for the world of work" (P2.1). "The main effort around support activities for employability comes from the Career Counseling and Work Placement office" (P2.2 and P2.3). The institution's marketing department covers external promotion of its programmes and marketing communication aimed at relevant stakeholders towards the development of an appropriate and competitive brand image.

3.3.1. Career Counseling and Work Placement:

Both units work very closely with one another whereby they report their main role to be 'a gateway' that connects the institution with industry. "We operate as the link between the schools and the companies for everything that concerns career or industry connections … our focus is the graduates and soon-to-be graduates mostly, but we also strongly support the Collaborative Educational track, the realization of work placements for internships or other curricular oriented collaborations between schools and industry" (P2.2, P2.3). "They organize services provided directly to the learners that are formally organized in an activities calendar that is communicated to the students through an online portal " (P2.2, P2.3, P2.4).

Industry relations and Work Integrated Learning

In order to enhance the authenticity of the learning environment, the connection with industry is a pertinent factor through "all kinds of projects that involve industry where possible" (P2.5). This concerns on the one hand "exposure to industry for students and the institution as a whole" (P2.1)" but also involves the "identification of job placements" (p2.1). The support services help to connect the programmes with industry through building a network and connecting companies with the relevant parties in the institution spanning across students, faculty, Deans, Alumni etc. There is a reciprocity in the relationship with students whereby they can also bring in their own suggestions for companies they want to work with (P2.4) or with the faculty where they" do consulting work for industry and help us to build our network" (P2.2. P2.3). "The link with industry also helps us to bring guest speakers into the classrooms for different courses, which enhances the work context of our programme" (P2.1).

Aside from the optional Collaborative Education track mentioned above, the post-orientation programme is the most formal inclusion of industry into the programme whereby a variety of companies are invited "to address students and interact with them towards the context of their future careers and industry or company specific expectations" (P2.4). This mandatory component of the learning journey is organized for each school yet very much relies on the input from the support services.

Events

The various support service offices organize a variety of events on campus that are directly or indirectly addressing the future professional life of the learners through career days, job fairs, guest speakers and other activities to reinforce

the development of the institutional DNA (P2.1, P2.2, P2.3, P2.4, P2.5). "Three times

a year we organize a career event of which the biggest one is HEI2 Career Day"

(P2.2, P2.3). "Support services organize job fairs and extracurricular activities around

creativity and entrepreneurship" (P2.5). It is clear that the institution acts strongly on

its ambition to foster its DNA in its learners which complements the focus of

creativity and entrepreneurship all programmes aim to address and the

internationalization component that HEI2 pushes forward as an important part of

employability for Thai graduates. "We try to organize as many activities on campus as

possible that allow expression of creativity, internationalization and entrepreneurship

such as talent shows, festivals and creative art competitions" (P2.4). Participation in

the events allows learners to collect points whereby 16 points are a graduation

requirement. The Student Welfare office further issues 'activity certificates' to

learners that collect 32 points which aims at promote the strengthening of one's

professional profile beyond academic performance (P2.4). "We try to explain the

importance to students on how engagement in this type of activities can help them to

build their profile to future employers. (For employers) it is not just about GPA

anymore" (P2.4).

Workshops and standing services for the student body

Aside from planned events that address employability, the institution

also offers standing services to its learners that are highly focused on preparing them

for the world of work and building the bridge for exiting graduates to find a first job.

"Our team has undergone some trainings around career counseling and supporting

students in this area, but they are not experts by means of having official

qualifications in the field" (P2.2, P2.3). Its activities very much confirm the bolt-on

approach of the institution in addressing career competencies by means of organizing "training and workshops around personality, job interviews, cv writing, network building and job search practices" (P2.1, P2.2, P2.3). "The Career Counseling unit does not take part in the delivery of the academic programme, because the semester calendar does not have room for this"(P2.2, P2.3). The Career Counseling and Work Placement unit further offers learners support through "recommending jobs or internship placements to current students and to-be graduates" (P2.2, P2.3) but also engages in "supporting graduates who have difficulty finding jobs" (P2.1, P2.2, P2.3). The latter evidences some sort of follow up mechanism that goes beyond data collection of destination of graduates.

Interaction with internal and external stakeholders

From an operational point of view the support services provide a complementary component to the Academic Affairs office and subsequent programme specific activities resulting in informal and formal interactions around sharing networks, introducing contacts, reporting on destination and course review data, addressing the realization of the DNA beyond the formal academic efforts and supporting the provision of authentic learning experiences (P2.1, P2.5). "Student affairs supports the realization of the internationalization component of our programme by attending meetings and sharing networks to realise this"(P2.5). "We have regular meetings with directors and VP's from support services in order to develop carefully coordinated and aligned activities" (P2.1).

The larger proportion of interaction of the support services is logically with the student body and there seems to be a challenge in connecting with the student body from an early moment in their learning journey. "We experience low

engagement by students …our offerings only seem to become interesting in their final years … the (extracurricular) points system helps to secure some attendance" (P2.2, P2.3). The support services announce all their activities on an online portal but "visits to our online portal are very limited" (P2.2, P2.3). The communication is further supported by "sms, blast email, through faculty, posters, social media, through marketing department to put it through the media and by calling for meetings with different people to disseminate the information" (P2.2, P2.3) in order to make everyone aware of the provided services and increase the attendance (O2.1). "Faculty support is critical to reach students" (P2.2, P2.3) and part time faculty are found more difficult to get engaged in this (P2.4). Not only do "we need to find ways to promote the events internally in a manner that is more attractive to students (P2.4)" but also "finding timings that fit to bring learners from different majors together is a challenge" (P2.4).

In an effort to increase the effectiveness of communication around career competencies with particular focus on job placement and connecting job seekers with companies, the "Career Counseling unit is collaborating with the HEI2 Alumni office to develop and run a mobile and desktop application for job search that includes CV posting, connecting with industry, posting job vacancies and internships, etc)" (P2.2, P2.3). The Alumni office already has a website that posts job vacancies (P2.2, P2.3) but the application is hoped to enhance the effectiveness in engaging with students and graduates. They also connect with past graduates by means of a yearly survey to collect destination data and to identify alumni that are in need of support to start or further build their career (P2.1, P2.2, P2.3).

3.3.2. Institutional Marketing Department

The most prominent interaction with external stakeholders - in particular prospective students, parents and the larger community - happens through the institutional Marketing department. "The Marketing department uses success stories of graduates … and how faculty interacts with industry … to produce content for both internal and external communication … they form a strong part of the image building of the university to outside stakeholders" (P2.1). "The Marketing department is a very important unit to explain to the outside what we do, how we are different and how this makes sense" (P2.5). HEI2 has a dedicated webspace as part of the mother university's website that clearly outlines the programmes it offers and makes clear reference to creativity, entrepreneurship and internationalization as well as indicating the relevance of the programmes in relation to careers (PD 2.1). "The link with industry is very clearly present in the marketing rhetoric around HEI2… Pathways for careers are clearly outlined for students and parents" (P2.5). The Marketing department also supports the communication of events that are organized by the support services by means of pushing content into public media (P2.2, P2.3, P2.4). At institutional level there is "the 'Open-House Event' (which) is a yearly institution wide event that aims to make the public aware of what our institution does … this of course includes a lot of references to employability, creativity, entrepreneurship and internationalization" (P2.5).

3.4. Theme: Industry Engagement

The institution clearly values the involvement of industry in the development of its offering and its operations whereby through various "formal and informal contacts" (P 2.2, P2.3, P2.4) industry partners are involved in the realization of the

transformation process of graduates to employable young professionals. Such engagement occurs at various levels of invasiveness spanning across activities towards supporting general awareness around labour market realities (P2.2, P2.3), benchmarking of qualifications to industry standards (P2.1) and delivery of programmes (P2.1, P2.2, P2.3, P2.4, P2.5). The communication between the institution and the industry partners to exchange employability relevant information is often done online, yet the exchange with the student body is "far more effective and meaningful through face to face interaction" (P2.5). The institution is vigilant to engage with "the right companies with relevant positions for (our) graduates … mostly national but at times also international" (P2.2, P2.3). Such consideration is not a one sided consideration for institutional benefit to gather input or knowledge towards an effective and appropriate transformation process, but also concerns the benefit for the industry partner such as potential recruitment. This consideration for mutual benefit rests on a desire to develop sustainable and lasting relationships rather than fluid and superfluous ones. "Industry partners are always closely consulted on how they view our events and its effectiveness for them to recruit young talent" (P2.2, P2.3). "We always look for a win-win situation for us and industry. This means they get something out of it, which is quite often a potential hire" (P2.4).

Through "working together with professional associations" (P 2.1) and "consultation with professionals under the form of steering committees" (P2.2, P2.3) the institution gathers understanding of "what needs to be addressed through our curriculum and how this is best done" (P2.1), "what is currently going on in the job search environment" (P2.2., P2.4) and what type of "industry and company specific requirements" (P2.4, P2.5) are pertinent. The practice of consultation with industry

and its further inclusion in the programme forms part of the institutional policy around porgramme design and development" (P2.5).

Industry is further involved in the delivery of the programmes and extra-curricular activities that support the academic transformation process. The institution strongly believes in the value of people who are currently part of the industry environment and what this can bring to the transformation process. "We use different types of industries in order to deliver our programme" (P2.5). The faculty consists of a good amount of part timers (P2.1) who are currently active in industry and "who bring their industry experience to the curriculum" (P2.4). The use of guest speakers is a widely adopted practice throughout HEI2 whereby the guest speakers are either sourced through the Career Counseling and Work Placement office (P2.2, P2.3) or are invited through personal networks of the faculty (P2.1., P2.4). Company visits (P2.2, P2.3, P2.4) but also closer collaboration with industry under the form of internships (P2.1, P2.2, P2.3, P2.5) also form part of the institution's employability address. Generally the finding of and collaboration with locally based companies runs smoothly in contrast to the more challenging task of partnering at an international level which has proven to be complicated, yet not impossible (P2.4). "Deans are present at the conversations with industry when they evaluate collaborations, which allows to feedback to the faculty" (P2.5).

Beyond the purely academic environment, industry is also engaged through company delegations that visit the campus and actively take part in extra-curricular activities, competitions or employability related events (P2.1, P2.4). "Companies visit our campus to address graduates during Valedictorian Day" (P2.2, P2.3, P2.4, P2.5). "We have collaborations and partnerships with companies to develop

competitions for students … 'Digiday' (a competition that is organized by the Marketing programme in collaboration with some tech-industry partners) is an example of how our learners can prove their ability in a digital environment and come up with viable solutions or new ideas in the digital domain … the marketing programme works closely with many companies around marketing activities to promote, design, pitch and improve existing or new products" (P2.5).

3.5. Theme: Quality and Measurement

The quality of the transformation process concerns various quality indicators around which data is captured through multiple measurement systems. "Information is being reported up and down the chain mostly within the department and in collaboration with the institutional research unit" (P2.1). In most cases the formal capturing of data and initial analysis or processing concerns end-of-process metrics and some high level academic process data. This data is typically of quantitative nature that is captured per school or programme and forwarded to the institutional research unit which then disseminates the organized data/information to the relevant parties in the institutional hierarchy. Deans are typically the gatekeepers of this information that flows back to the faculty (P2.1, P2.5) whereas the academic unit facilitates the information flow with non-academic departments such as the Career Center (P2.2, P2.3). The data captured by the institutional research unit however renders mostly 'very big picture' information, which does not indicate much around the specifics of elements within the transformation process as such (P2.4). "Some information is processed by the academic support unit (i.e. the academic arm of the institutional research unit), which outlines the big picture … this information is then being fed back to each school (where) the Dean analyses the information and

(facilitates) the feedback to the faculty (towards) improvement where needed" (P2.1). The flow of quality related information to external stakeholders is instrumental to on the one hand branding of the institution towards prospective students and industry (P2.2, P2.3, P2.4, P2.5) and quality assurance in terms of accreditation (P2.1, P2.4, P2.5). The branding of the institution is set in an environment that is highly influenced by an "emotional ranking of universities by both parents and organizations (public and private) … which is not necessarily correct but guides (particularly) companies in their thinking and subsequent hiring decisions" (P2.5). Accreditation standards are typically pursued at a level of national requirements around "how courses are being delivered in terms of theory and practice mix" (P2.1), "collection and results of various statistics around work placement and career" (P 2.2, P2.3), "evidence of activities through pictures, attendance figures and evaluation statistics" (P2.4) and "data from governmental assessments around fit for purpose through interviews with industry" (P2.5). The national accreditation is argued to be an important part to effectively position the institution in the societal and labour market landscape (P2.1, P2.5).

The key informants' responses indicate agreement that quality around the employability transformation process can be investigated through various indicators. The mentioned indicators can be categorized in three themes: process, result and destination. Process indicators concern qualifying considerations on how well the process enables the transformation from entry level learner to employable graduate. Result quality indicators represent the areas of impact that institutions focuses on in terms of transformation process outcomes that warrant for employability. A third quality indication of the transformation process is nested in the realm of the

graduate's destination in the world of work. The institution uses certain mechanisms to guard for quality but does not necessarily measure these. As previously mentioned, the consideration for the HEI2 DNA of creativity, internationalization and entrepreneurship is considered to be consistently embedded in as many learning experiences and environments as possible, as the institution believes this to be a fundamental quality factor towards educating the workforce of the 21st Century in Thailand. The profile of the faculty and an appropriate mix of theory and praxis are also deliberately considered to guard for the quality the institution aspires to deliver to its learners.

3.5.1. Measurement systems.

The institution has various systems of quality measurement in place that pertain employability. The majority of the efforts happen at the Programme level yet these efforts are governed by standardized institutional practice as evidenced in Table A-7 below. The involvement of various internal (faculty and students) and external stakeholders (Industry and government) in evaluation suggests good objectivity and instills confidence towards opinion forming by stakeholders, in particular government, prospective students and future industry partners.

Instance	Level Standardization	Level of Practice	Frequency
Quality review at design and development level	Institutional	Programme	When required for Quality assurance
Student progression	Institutional	Programme	Semesterly
Self-Evaluation Course review by Faculty	Institutional	Programme	Semesterly

Instance	Level Standardization	Level of Practice	Frequency
Surveying graduates and alumni	Institutional	Programme	Yearly
External Check by Industry	Programme	Programme	Yearly
External Checks by Government	Institutional	Institutional and Programme	Yearly
Consultation with professional associations	Programme	Programme	Yearly
Surveying Employers	Institutional	Programme	Yearly
Benchmarking with other universities	Institutional	Institutional	Ad Hoc
Labour market intelligence	Institutional	Programme	Ad Hoc
Events evaluation	Institutional	Institutional	Per Event
Student Screening before entering CE track	Institutional	Programme	Semesterly
Documenting industry visits and collaborations	Institutional	Institutional and programme	Per visit or collaboration
Focus groups with companies	Programme	Programme	Ad Hoc

Table A-1 HEI2 Employability Measurement Systems

3.5.2. Data

Besides the standard types of data from the student information system and graduates' destination, the institution captures some additional data around the environment, its interaction with industry and some additional process related data (Table A-8). Based on the information made available, it can only be assumed that this data is low in granularity. The data collected is however pertinent to the goal of employability, can be assumed to be highly quantitative and is suggested to serve a predominant focus on serving as input towards aligning the transformation process with industry and evaluating the overall effectiveness of the transformation process at the point of output. "For now we really only have big picture data … (there is) little data on the process as such" (P2.4.). Most of the data is collected through survey practices in collaboration with various departments and units (P2.4) however some information is gathered through more qualitative processes such as focus groups (P2.5) or personal consultation (P2.2, P2.3).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Course evaluation by faculty	Quantitative and Qualitative	yes	Low	Yes	Reported to Dean and used to improve courses
Course evaluation by learners	Quantitative and Qualitative	yes	Low	Yes	Part of continuous improvement and QA requirement.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Satisfaction with events	Quantitative	yes	low	Yes	Used to inform future events and as part of QA reporting
Recruitment value of events	Quantitative - Qualitative	yes	low	Yes	Used to inform future events and as part of QA reporting
Satisfaction with learners and graduates	Quantitative and Qualitative	yes	unknown	yes	Relates to the CE projects and to the employers
QQA indicators	Quantitative (Binary mapping)	yes	high	yes	This is part of a self-evaluation review process
Points for extracurricular involvement	Quantitative	yes	low	yes	Graduation requirement

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
CE quality control (project, career development , participant and attendance)	Qualitative	yes	unknown	yes	Includes screening of learners on attitude and ability
GPA and SIS data	Quantitative	yes	high	unknown	Standard use for reporting
Information from professional associations	Qualitative	yes	High	Yes	Indications for objectives for each programmes and required content or skills
labour market information	Qualitative and Quantitative	yes	unclear	Yes	Informs institutional and programme's strategic direction - part of the rationale for a programme at QA level.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
English Proficiency	Quantitative	In progress	Medium	In progress	Command of English was highlighted as a key employability factor.
Institutional image by industry	Quantitative and Qualitative	yes	low	yes	Part of the branding positioning efforts.
Employment status after 1 year (including self employment)	Quantitative	Yes	Low	Yes	Government requirement and baseline stats to communicate to stakeholders
Employment upon graduation (including self employment)	Quantitative	Yes	Low	Yes	Government requirement and baseline stats to communicate to stakeholders
Starting Salaries of Graduates	Quantitative	yes	Low	No	Government requirement and baseline stats to communicate to stakeholders

Table A-6 HEI2 Employability Measurement Data

The institution reports on 90% of its graduates to be employed after one year of which 20 to 30 % are self-employed. The School of applied arts, architecture, fine arts and accounting are programmes that yield very high success. Further granularity of quantitative data is considered as confidential. Institutional analysis of the results however indicates a reportedly strong determination to be improved yet this is perceived as a challenging endeavor (P2.1, P2.5). The granularity of the data is recognized as a limiting factor to illuminate the full context and results. "Finding a job is one thing, finding a good job is something else" (P2.1). "Situations of the labour market are different for each field and are time dependent" (P2.2, P2.3). "We have little data around extra-curricular involvement… the (extracurricular) point system allows us to motivate for and track engagement with extra-curricular activities"(P2.4).

APPENDIX 5 Case Study 3 HEI3

1. Case Specific Data Sources

The presentation of the transformation process that HEI3 has in place, is based on interviews with 4 key informants, information from various accreditation reports, information in the public domain and personal observations. The case is in its majority built on the information that is gathered through interviews with key informants of which the findings are further corroborated and enhanced by the other data sources where possible and deemed necessary. Data collection has been constrained due to limited availability of people to interview and elements of confidentiality. This case is particularly valuable to the building of the model in terms of the way the institution interfaces with industry and integrates authentic and experiential learning in its transformation process.

1.1. Interviews

This data source concerned interviews with 4 key informants. These interviewees were deemed key on the basis of their position, tenure and involvement in the organization (Table A-9). The respondents all hold senior or managerial positions in the institution which allowed for the capturing of both strategic and operational relevance to the transformation process.

Participant nr	Position	Tenure	Key involvement relevant to this study (Department and role)
P3.1	Associate Dean for Accreditation, Strategic Audit and International Developments	+10 years	In charge of accreditation attainment and internationalization of the programmes. Liaises with various academic units, student services and the career center.
P3.2	Associate Academic Dean 'Formations et Pedagogies'.	+10 years	In charge of pedagogic and academic matters for all programmes inclusive of admission, registration and graduation. Liaises in particular with all Academic Deans, with the office for Accreditation and International Developments, Career and Internship Center and Marketing - Promotion department.
P3.3	Dean for the Integrated Master in Management Programme 'Grande Ecole'.	+10 years	In charge of all matters related to the Integrated Master's Programme (Grande Ecole) which includes liaising closely with other Academic Deans, the Career and Internship Center, International Affairs and Marketing - Promotions department.

Participant nr	Position	Tenure	Key involvement relevant to this study (Department and role)
P3.4	Manager Career and Internships Center	+10 years	As part of the Corporate Relations office this function exercises a dual function by means of managing the provision of career guidance and career competency development and by managing the facilitation of internship placements for all students at the institution. As part of the corporate relations office it also liaises closely with International Affairs and Academic Affairs.

Table A-7 Key Informants TEM

1.2. Internal Documentation provided

- Self-Evaluation Reports for accreditation (AACSB, AMBA and

EQUIS) (referred to as D3.1)

1.3. Information in the Public Domain

- Website (referred to as PD 3.1)

1.4. Observation during site visits

- Facilities (referred to as O3.1)

- Notices (referred to as O3.2)

2. Background and concise context

HEI3 was founded in 1979 and operates a "public business school in the

French Grande Ecole tradition" (PD 3.1) under the oversight of the French Ministry of

Economy, Industry and Finance. Since its inception, HEI3 has been the management school within a larger public university specializing in engineering and numerical sciences. As will be evident from the remainder of this case, the close relationship to the engineering field, in particular the information technology domain, positions HEI3 quite uniquely in the French HE landscape. Since 2015 HEI3 is also part of the French Center of Excellence Université de Paris Saclay, giving further testament to the quality standard of its awarded degrees and its overall position in the French HE system. "Our closeness with the engineering school really helps us to develop a transdisciplinary mind set in our students, which is very important when we look at the way companies operate today" (P3.2). The institution has up to date graduated over 4000 young professionals in programmes that range from Bachelor's, Master's, Executive MBA to Phd level in the fields of management and engineering technology. The manner in which Bachelor's and Master's degrees progressively link with one another follows the traditional Central European approach of 3 years Bachelor studies and 2 years Master studies. HEI3's Integrated Master's programme comprises of 3 years of which the first year is the final year of its preceding Bachelor's programme. HEI3 is renowned for its "dual expertise in Management and ICT" (PD3.1) which is evident in all its programmes and not in the least in the professional destination of its graduates (P3.1, P3.2, P3.3, P3.4). The institution furthermore is cognizant of the value of instilling an entrepreneurial spirit in its graduates and has various direct and indirect mechanisms in place to foster this, ranging from entrepreneurship oriented programmes (PD3.1), core and elective courses that cover entrepreneurship related topics (P3.3), a 'Challenge Projet d'Entreprendre' (P3.2, 3.4, 3.4, PD3.1) and an incubator located on campus (P3.2, P3.3). A clear trend is perceived around the

aspirations of HEI3's graduates to be part of start-ups and smaller organizations as they progress through their educational career and their professional life. "The choice of internship in the last year of the Bachelor's programme is typically a large firm, whereas the choice of internships for the final year in the Master's is typically a smaller organization or a start-up" (P3.4). "We observe a trend from our graduates to start off their professional career in large telecom firms, consulting agencies or banks, but after 3 to 5 years we can see quite a few move towards smaller companies or get involved in start-ups … I cannot validate this with data, but it is a trend I personally observe from my Linkedin network" (P3.2). According to the '2015 Young Graduate Survey', administered by the Conference des Grandes Ecoles in 2016, the initial destination of HEI3's graduates is mostly in the sectors of Audit & Consulting, IT services and the fields of Finance, Bank or Insurance (PD3.1). The HEI3 website further points at its incubator currently housing "more than 20 start-ups involving more than 160 entrepreneurs. Over the last ten years, the incubator has created over 100 companies employing more than 1000 people" (PD3.1).

HEI3 offers its learners what it names the 'best return on investment in the market' by means of being the Grande Ecole that offers the lowest tuition fees against being ranked among the top 10 management schools in France in terms of salary upon graduation (Gross yearly salary of 40520 EURO) and being ranked 2nd for alumni salaries after 3 years of graduation (PD3.1). "Our graduates are in high demand in the market, at least 60% of them have a job before they finish their last course in our programme"(P3.3). According to the '2015 Young Graduates Survey' "70% of the HEI3 young graduates found their first job before graduating Télécom Ecole de Management and 99% of the young graduates found their first job in less than six

months" (PD3.1). "Anyone who graduates from this school and wants to work will find a good job, even after the crisis" (P3.1).

The school's prestigious national 'Grande Ecole' quality stamp is furthermore strengthened by international accreditation awards of AMBA and AASCB (PD3.1), giving re-assurance to its stakeholders that it lives up to international standards of higher education and establishing a level of international recognition of quality to other HEI's and employers in an international environment. HEI3 is furthermore a member of European Foundation for Management Development (EFMD) and the Fondation Nationale pour l'Enseignement de la Gestion des Entreprises (FNEGE) adding to further recognition of its quality regionally. HEI3 supports international opportunity by means of international partnerships with over 100 universities, the offering of courses for 9 different languages, a student body of over 50 different nationalities, offering numerous programmes in English, having an international faculty and offering more than 10 double degree programmes in collaboration with international HEI's (PD3.1).

HEI3 proudly asserts its professional network by means of stating its partnerships with over 300 corporations, its 4000+ active alumni and the receiving of 5000+ employment offers per year from industry (PD3.1).

Its mission statement highlights employability in terms of work-readiness for the future and entrepreneurial spirit in the new economy of the 21st Century with a clear assertion of its link with and focus on the professional world.

"A public, socially inclusive, higher education institution, HEI3 trains future managers and entrepreneurs to be responsible, innovative and open to the world around them and to lead their organizations in the major transformations of

tomorrow's society: digitalized economy, energy and ecological transition, new business models and industry of the future.

Leveraging its research and education programs, its support of innovation and entrepreneurship, its close relationship with business and its engagement within its territory, the School aims for excellence in contributing to economic development both nationally and locally, while creating value for all its stakeholders." (PD3.1) HEI3's values of being "Audacious, In search of excellence, Open and Responsible" (PD3.1) reflect clearly the sense of preparing the workforce for the future, for the new economy and society of the 21stCentury, inclusive of an innovative and entrepreneurial spirit. "We want our students to be able to address the problems of companies today and the future … they need to be open minded … ask the right questions … and excellent at what they do" (P3.2).

3. Employability Transformation process

3.1. Theme: Leadership

3.1.1. Strategy

Employability is clearly a strategic focus of the institution in the sense that it is seen as a prime competitive advantage and employability development is a clear core competency of the organization (P 3.2, P3.3). This is evident from the end of process indicators around employability such as employment upon graduation in the field of study, the earning potential associated with its awarded degrees and the career development of its graduates. This can be attributed to HEI3's commitment to addressing "the economic and company requirements for the 5-10 years to come" (P3.2). "We have good alignment with our mission" (P3.1)."Everything we do is about developing employable graduates" (P3.2).

The institution has been very successful in forging effective relationships with industry, securing quality labels at national and international level and a strong network of collaborations with national and international HE providers (P3.1, P3.2, P3.3, PD3.1). "We have very high collaboration with companies for learning"(P3.1). "We focus very much on building a strong brand image of the school towards companies"(P3.2). "We see industry as partners and of course they represent the demand side for our output" (P3.4). "We are selective on which companies we work with …we constantly search for new partnerships that will help us to address the needs for the future … we work together with other schools but also the public sector in terms of fitness for purpose … highly focused on the development of professionals"(P3.2).

The uniqueness of HEI3's position in the market is strongly defined by the focus on praxis alongside theory with an uncompromising commitment to compulsory learner engagement with industry. "We position ourselves through praxis as different and more employability focused than universities" (P3.3). Of high importance is the inherent interaction of HEI3's learners with those from the Engineering school with which HEI3 shares its campus. The students bodies are far more intertwined than merely sharing physical facilities since "Humanities classes are mixed, some student projects use interdisciplinary teams, the Challenge Projet d'Entreprendre is mixed and all students associations are mixed" (P3.2, P3.3). This is a point that is argued to be highly instrumental to the development of versatile managers for the future (P3.2, P3.3, P3.4). The Director of HEI3, articulates this very clearly in the promotional video on HEI3's website by stating that "this is very interesting for our students because they can share classes, projects and experiences

with engineers, which is very important when they reach the professional life because they know how technology works and how people in companies manage technologies" (PD3.1).

3.1.2. Organizational Culture

The institution does not have a formal definition for employability yet considers it as an "intuitive notion" (P3.3) of which "the whole organization is very well aware and conscious of its importance" (P3.1) and sees it "realized through the institutional Assurance of Learning (AOL)" (P3.2) and "through a framework of curriculum and support services" (P3.3). Therefore the totality of the transformation process is carefully considered towards a desired output. "It is as much about making sure they go into a valuable internship as well as landing a job at the end" (P3.4). "We are in a process industry, so the process is as interesting as the end output" (P3.2). Since the attainment of the AMBA and AACSB accreditation, the institution seems to have been focusing on various other elements that require attention, and even though employability is clearly evident at the heart of the institution, focus may have shifted somewhat to dealing with operational issues as a results of short staffing in some areas (P 3.1, P3.3). That being said, employability is "still considered a priority but lacks formal articulation by senior management"(P3.1, P3.2). Employability remains a topic of discussion at senior level yet the information does not always flow effectively through the organization (P3.1, P3.3). "We need a stronger, more formalized information system in order to smoothly communicate with support services to enhance our programme in a more efficient manner … we are working on a system to improve the information flow around accreditation" (P3.3). Conversations around employability between Deans and their faculty and between departments are

more informal and on ad hoc bases rather than in a formalized manner. "I receive lists of alumni contacts when I ask for them … formal communication mechanisms need to be developed" (P3.1). "We have discussions at senior management level around employability" (P3.2). The only formal communication process that is specifically about employability would be the communication mechanisms around internships with the career and internship center, which will be elaborated on later in this document. "We have an automated system in place to process internship confirmation that involves students, faculty, deans and companies" (P3.4). Communication with existing students to showcase the value of employability happens through information on TV screens, regularly organized events, some dedicated courses in the curriculum (P 3.3) and a dedicated "web portal called E-campus that provides various information around internships and career related information" (P3.4). Communication with external stakeholders happens in various ways. The institution has a formal Corporate Relations office that is in charge of developing and maintaining the relationships with industry (PD 3.1, P3.1-4). This take the form of formal meetings with companies in search for partnerships (P 3.4), through formal consultations around curriculum (P 3.1-4), a 'corporate day' whereby industry partners are invited on campus to discuss various topics of established and potential collaboration (P 3.2), and more informal relations through the faculty (P3.2-4). Communication to national and international accreditation agencies happens through formalized reporting structures (P3.1) and uses various external sources to have the necessary information to develop the required rhetoric (P3.1, P3.3). Communication to prospective students happens through engaging the Marketing - Promotions office who collaborate with the required units to develop marketing materials and content as

required and participate in external events such as the yearly national job fair in Paris (P 3.3). "The communication to prospective students very much uses employability as part of its rhetoric … data helps to develop our discourse … but I also like to take current students with me" (P3.3).

The institutional approach firmly promotes the value of mirroring real life in respect to how learners progress through their degree by means of not only high interaction with industry through internships and a very high number of external faculty members from industry, but also by means of putting large responsibility of learning on the learners. "We are facilitators, we do not spoon feed them … the students need to take responsibility and make their choices just like in real life" (P3.4). "We give them the blocks and the cement, they need to build … "(P3.2). "We prefer to have students that are interested in what they do, rather than make everything compulsory … the ownership lies with the student" (P3.3). The link with industry and being at the cutting edge of what companies require is addressed through the inclusion of adjunct faculty, particularly in the years of specialization (i.e. majors). Adjunct faculty is seen as very valuable and an integral part of the school's body of knowledge. "The use of adjunct faculty from industry is very important for us" (P3.1). "We refer to them as professionals rather than adjunct, because the term adjunct does not reflect the value they bring to our school" (P3.3). The institution also puts quite some emphasis on the value of innovation and entrepreneurship by means of committing entrepreneurial activities on campus (P3.2. P3.3. PD3.1) and is "in the process of developing a dedicated space for authentic learning and simulation" (P3.2).

3.1.3. Decision Making

HEI3 has few KPI's and targets in place that allow to monitor the transformation process as a whole. Its formal structures around quality assurance and in particular AOL (D3.1) are used as the governing mechanisms to address employability (P3.1, P3.2). The fact that employability development can be seen as an "intuitive notion" (P3.3) woven into the fabric of the organization may explain the absence of dedicated measures. "It would be too complicated to have KPI's split around the development of (employability) skills for our graduates … it is interwoven in the process" (P 3.2). "We have formal processes in place that guard for quality and those includes employability" (P3.3). Decisions are driven by "general information, destination data and qualitative discussions between senior management" (P3.2) when it comes to strategic matters. "We have a board that brings all Heads of school together, were we discuss various things including employability and how we can work together in a more effective way" (P3.2). This has resulted in a recent commitment in "investing in learning areas for simulations and authentic learning" (P3.2) and an address of the curriculum of the Integrated Master's programme with "a specific address of professional identity through professional valorization components in conjunction with the career center" (P3.3) aside from the continuation of mixing the student body at an institutional level.

In terms of industry partnerships, the institution searches for companies that share the values of the institution and provide a meaningful and positive learning experience to the learners. "We are selective on which companies we want to work with … based on shared values" (P3.2). "After evaluation of the overall experience with a company in an internship, we decide whether we want to

work with a company again or not … we sometimes stop internships in the middle"
(P3.4). Decision making is furthermore driven by legal requirements in terms of
accreditation and internships. "We try to be innovative, but we have to follow the
requirements of accreditation … which puts us sometimes on a narrow path" (P3.2).
"There are legal and academic considerations around internships that must be
followed if we want to work with companies" (P3.4)

3.1.4. Professional development

In terms of professional development that is focused on employability
there is very little evidence found at HEI3. "There is little to nothing available
internally … staff can exercise their professional development right according to
French Law, but nothing happens focused on employability to my knowledge" (P3.1).
"We face the same issues as the companies … some of our people are ready to deal
with the changing environment and some are not … it is difficult to force professors
to change " (P3.2). It is fair to say that in terms of professional development for
employability "there is nothing formally in place" (P3.3).There is some engagement
by the institution in communities of practice (COP's) around accreditation "where
employability elements are discussed at times" (P3.1) and the institution shares good
practices around accreditation in terms of national (Grande Ecole) and international
attainment (P 3.3), this however only addresses employability indirectly in a reporting
capacity and not practices of development as such. The sharing of best practice
around employability in the institution and its subsequent result of 'on the job'
professional development of individuals is limited even though the "structures of the
overarching HEI around sharing best practices for other areas would be a good format
to develop something for employability" (P3.1). The center for Career and Internships

however does report on having participated in training around active listening in a counseling context, CV writing focused on the French labour market and for the delivery of a co-orientation module for students around the development of professional identity, which was facilitated by the our overarching HEI (P 3.4).

3.2. Theme: Curriculum

3.2.1. Design and Development

The curriculum of HEI3 is designed around a mix of theoretical and practical learning experiences through learning environments that include high levels of authenticity, are experience oriented (work integrated or experiential) and place the learner central to the learning journey (P3.1-4). The curriculum is as about "knowledge acquisition and application"(P3.1). "We try to develop the right learning environments i.e. highly authentic and interdisciplinary … using lectures, internships, apprenticeships, business games and simulations … with as much time as possible with our professors"(P3.2). The student-professor ratio of 16 to 1 (PD3.1) suggests the possibility of high interaction and the development of appropriate professional learning relationships." We try to get our students to have a much time as possible with professors "(P3.2). "We deliver programmes for employability that strike a good balance between soft and hard skills inclusive of career competencies … it is about developing a professional in the full sense of the word" (P3.3).

In the spirit of academic freedom, the faculty is given high autonomy around how they run their courses and what they include in it. That being said, the design and development of programmes and courses is done with accreditation requirements in mind which includes formal consultation mechanisms with industry in the form of advisory boards for programmes and steering committees for majors

(P3.1, P3.2, P3.3). In these consultations, the course contents and desired employee profiles are discussed on a yearly basis in order to make sure the programmes are aligned with what industry requires (P3.2, P3.3, P3.4) and this results in "changes in courses on a yearly basis" (P 3.3). Even though employability is predominantly evident in courses that address soft skills such as self-reflection, teamwork and presentation skills (P 3.3), career competencies are addressed through a bolt-on approach in the form of sessions around cv writing, mock up job interviews and job search. The curriculum formally requires every learner to have engaged with the provision of such support services (P3.2, P3.3) through which they are a formal part of the curriculum.

The curriculum also includes "a mandatory international component through summer school abroad, an international internship or an internship in France in an international environment whereby the language of practice is one other than their native tongue" (P3.1). "The E-campus platform provides all HEI3 students access to an application called 'Going Global' to find information around international internships and general information about living abroad … covering information about over 100 countries" (P3.3). "I would like all our students to have an international internship (i.e. internship abroad), but this is hard to secure … there is demand for international exposure (i.e. going abroad) as a student, but the desire to eventually work abroad is low" (P3.3).

From a curriculum design point of view HEI3's approach is according to HE norm by using prerequisites to guard for and assure potential success of its learners in their academic journey. Value is seen in introducing not only soft skills, but also content and discussion around professional identity as an integral part of the

programme. The programme "combines soft skills and hard skills … and from the beginning there are courses that address professional valorization" (P3.3). The school furthermore uses a "scaffolding approach to the development of abilities and skills and by means of introducing authenticity and interdisciplinarity step by step" (P3.2).

3.2.2. Outcomes

HEI3 puts the development of competent professionals at the forefront of its programme outcomes under the form of graduates profiles that reflect competencies that are relevant to the industries and companies of today and tomorrow (D3.1, P3.2) and which are evaluated and confirmed through the institutional practice of AOL (P3.1, P3.2). "It is all about critical thinking, skill mastery and being able to work in companies … one of the general learning goals is about master of technology for management" (P3.1). "Our outcomes have a particular focus on technology, information technology and entrepreneurial acumen … but we also promote values such as open-mindedness … excellence around performance … thinking outside the box … and adherence to basic principles of good behaviour "(P 3.2). The student centered perspective carries through to its statement of outcomes around employability, whereby the institution aims to produce graduates that are "able to find a position that will allow them to grow and be able to develop themselves to address issues for the next 5 – 10 years" (P3.3). The development of professional identity is considered as an inherent part of this (P3.3, P3.4) whereby the institution feels strongly about placing the onus on the learners to become self-aware in a professional context by means of making its learners "think about the future from a professional point of view" (P3.3). This includes not only field specific technical knowledge, but also a strong component of humanities in terms of "ethics, responsibility and

sustainability" (PD 3.1). The overall goal is to develop graduates that are "problem solvers with a critical mind … develop critical questioning and the ability to reason … inclusive of ethical considerations for problems and solutions" (P3.2) and "help them to build a strong and effective resumé (to) prepare them to find, get and do a job properly (and) behave properly in a management function" (P3.3). "HEI3 produces self-aware young professionals (who are) knowledgeable in their field, have an understanding of what they want to do and are able to find a job" (P3.4). The assessment of the curriculum depends on the course and consists overall of examinations, apprenticeships, simulation games, project reports and oral defenses which are administered by the faculty and/or the industry partner (P3.1-4)."What we want our student to know and be able to do is clearly outlined for every course … skills and competencies are included and evaluated in the assessments" (P 3.2). "Apprenticeships and internships are the curriculum components whereby industry is involved in the evaluation" (P3.3).

3.2.3. Interdisciplinary and entrepreneurial focus

TEM takes full advantage of the presence of engineering students from the Engineering school on its campus through the development of interdisciplinary learning experiences where possible. "We mix students of various disciplines together in humanities courses, student associations and (where appropriate) projects" (P3.2). The development of interdisciplinary components in a curriculum is found to be challenging since "it not easy to get all faculty working together and operate outside of their field expertise or in conjunction with someone who is out of their field … and it is furthermore a questions of trade off with developing the learners field specific expertise" (P3.3). As much as this complicates the development and delivery of the

curriculum, it is felt this is only to the advantage of the learners in terms of their employability. "The benefit of interdisciplinary approaches to learning is that it helps the students to become versatile managers (that are) able to work and communicate with experts outside their field of expertise" P(3.2).

The programme furthermore also addresses the entrepreneurial spirit that HEI3 believes fundamental to today's economy. The curriculum therefore addresses entrepreneurial components in the final year of its Bachelor's programme and in all three years of its integrated Master's programme, of which the last year it is an elective component (P3.3).

The '*Challenge Projet d'Entreprendre*' (Challenge enterprising project) is a learning experience, and a formal part of the curriculum, to which HEI3 proudly showcases its participation (PD3.1). This is a compulsory project whereby mixed teams of various schools are tasked to address a technology oriented challenge, proposed by a partner company, by means of developing a business plan towards the creation of an innovative, technology oriented solution. This project aligns very well with HEI3's aspirations to "address the digital challenge that firms face nowadays towards innovation"(P3.2). "It gives attention to the interdisciplinary aspect as well as team work orientation" (P3.3). The 4 winning teams get a chance to take their project to the incubator on campus and the overall winning team goes on to participate in the global challenge organized at Virginia Tech in the US. "We want them to have experienced what it is like to be part of something entrepreneurial (challenge or incubator) - this is a real transformational experience for most of them … work under pressure, work together, how to lead and how to follow, negotiate and compromise" (P3.4).

3.2.4. Professionals as adjunct faculty

The curriculum is delivered by an international faculty of over 55 full time professors and more than 200 adjunct faculty (P3.3). The full time professors have high theoretical expertise in their field which is considered fundamental to the learning process (P3.2) in particular at the start of the programme, where the courses are more theoretically oriented to provide a good foundation to build on (P3.3). The adjunct faculty typically consists of people from industry "that bring the reality of a course to the class room … and I appreciate it very much when full time faculty invite guest speakers to be part of their class" (P3.3). The adjunct faculty are dominantly present in the Major courses (P2.3, P3.3) and considered instrumental to the programmes' address to employability by means of not only bringing the cutting edge of industry to the classroom, but also towards exposing learners to professional work behaviours and the building of potentially beneficial networks for career opportunities. "The relationship with industry through professionals in our faculty is a win-win situation. We get their experience in our programme and they get to earmark talent for employment" (P3.3).

3.2.5. Compulsory internships or experiential learning

The internships are considered pivotal to the learning experience of HEI3's graduates (P3.1, P3.4) which frames in an institutional academic set of requirements as well as a legal structure at national level (P3.4) of which the latter shows the recognized value of the practice of WIL by the public opinion in France. Such legal structure presents both benefits and potential drawbacks to the organization of work integrated components in the curriculum. It provides a practical framework to outline contractual agreements between companies and learners and

creates a clear structure to both parties around accountability and expectations (P2.4).

At a more conceptual level, overly structuring the concept of an internship at times

may lead to impractical requirements around internship hours to be served and time

frames in which the hours can be accounted (P3.3).

At HEI3, to complete any degree at Bachelor's and Master's level, the

learners are expected to have at least completed respectively one or two work

integrated or experiential learning experiences under the form of internships or

apprenticeships (PD 3.1-4). "The real life experience is very useful to develop skills"

(P3.3) and "to learn about rules of the companies" (P3.4). The concept of experience

and developing professional identity is integral to learning at HEI3 (P3.1-4). The onus

of securing an internship lies fully with the student because "just like in recruitment,

there is an aspect of choice, if we were to assign the internship, it would not reflect

this idea" (P3.4). The industry partners are closely involved in the development of the

general internship structure, yet each internship is found and proposed by the student

is evaluated to meet the academic requirements of the institution (P3.2, P3.4). The

internships include the companies as active partners in the learning process and

engage them in the final evaluation of the interns whereby they formally assess the

interns on certain behaviours (P3.3, P3.4) and they attend and evaluate the final

defense (P3.1-4). The point of this internship is not only the attainment of

professional experience but also to foster self-awareness and professional identity

whereby the latter has been given progressively more attention over the last few years

(P3.3, P3.4). In the report and during the oral defense learners present not only the

work they have done, but also what they have learned and how this internship has

been useful for their professional growth. "Students need to reflect on their internship

… have they learned something or not … this (reflective component) is in the process of being improved … even if they stopped their internship prematurely and shifted to another one mid-process, this is a learning event and it becomes part of their presentation at the end … they have the right to make mistakes, but need to show that they learn from that" (P3.4). The approach to the internship in terms of students finding the placement themselves and being the central point of contact in securing and maintaining the relationships between all stakeholders involved, aligns very well with the pursuit of authentic learning experiences to mirror real life and prepares the learners for the world of work in their field of study beyond technical performance in the domain of study.

3.3. Theme: Support Services

In terms of support services the Career and Internship Center is by far the most instrumental in the development of employability as will be elaborately evidenced below. The outline will give detailed evidence on how this service is highly integrated the transformation process, and can be argued to be a core element to its success. The other support activities (Alumni office, Marketing-Promotion department, incubator and student associations) have a far more peripheral role in the institutional transformation process.

3.3.1. Career and Internship Center

The Career and Internship Center is the engine for any WIL activity in the programme and furthermore, as part of the corporate relations, is the critical liaison between industry and the institution in terms of learning opportunities and employability (P3.1)."They provide us with companies that we can work with … and facilitate the invitation of outsiders to address our students" (P3.2). "They help us to

identify companies that are useful for us to work with"(P3.3). The office for international affairs, which operates in physical proximity with the Career and Internship Center - and by that nature engages with it quite regularly - supports the international arm of the internship when appropriate (P3.1, P3.4).

The center is certainly recognized as central to the development of employability from a more generic skills and professional identity angle. "They offer plenty of support services around finding internships, operating as professionals, CV and job hunt related activities"(P3.1). "They provide a series of support services around career … they provide career guidance to our student body in general or on a personal basis if this is elicited from them" (P3.2). "They organize external people to come and provide developmental opportunities for students when it comes to career competencies and job search … they organize activities on campus all year around … lots of events where companies visit and address our students" (P3.3). "Four times a year we have campus recruitment forums so students can meet companies on campus - typically 40 companies per forum are involved" (P3.4). In terms of student engagement, HEI3 experiences a lack of engagement at the start of the year and by junior learners. Once learners become more senior, their engagement with support services around employability is much higher and much more meaningful. "The engagement of students in our events depends on the time of the year. In the beginning (this is) not so much (but during the) second semester (this is) more. Also progressively more interest as they become more senior" (P3.3).

Based on the place and importance of authentic learning and internships in the curriculum, and the role of the career and internship center in supporting this agenda, it is safe to say that this support service is strongly integrated

with the core curricular activities but perhaps not so much with other components of the transformation process. "Our interaction is only formalized with academics,with other departments (e.g. Marketing, Alumni, Incubator) this is ad hoc - on a need-to basis" (P2.4). The Career and Internship Center's involvement does not limit itself to curricular integration through the facilitation of on average 900 internship contracts per year and everything in its periphery (P3.4), but it also includes active involvement in the organization of on campus events focused on employability such as job fairs, company presentations, mock up interviews, workshops around career competencies, 1 on 1 personal and career counseling or supporting advice around internship progression in case of concerns (P3.4, P3.3). For quite a few of those activities, participation is an integral part of the formal curriculum completion requirement (P3.2. P3.3) pointing again at the integration of support services in the curricular side of the transformation process.

The Career and Internship Center's online support platform is called E-campus, which is mainly oriented towards the matching of learners with possible placements for internships for both HEI3 and Engineering students. The platform however holds information that goes beyond supporting internship by means of providing information around jobs, employability related events on campus and internationalization (P3.4). The web portal is however not as effective for sharing such type of information compared to facilitating the internship since it is an institutional process. "We run workshops and info sessions to explain the process of finding and applying for an internship … students upload their cv's/profile on our web portal … we post companies offers and student can then apply … or students can bring their own internship that they found from other websites, but they still need to

follow the official application process through E-campus … we use blast emails to diffuse jobs/vacancies from alumni to current students and graduates" (P3.4). The career center consists of a team of people with professional experience around counseling and recruitment, yet none of them are professionally qualified in the field of career management. The team has undergone some professional development as indicated above, yet is cognizant that further development would allow them to tackle employability more effectively particularly on the side of one to one career counseling (P3.1, P3.4).

3.3.2. Alumni

The role of Alumni services in the employability transformation process is limited to the provision of some data when required for accreditation purposes (P3.1, P3.3) or for ad hoc exploration of potential beneficiary collaboration between working Alumni and HEI3 through the Career or International office (P3.1, P3.4). The Alumni office resides under the corporate relations, yet does not seem to be very developed in terms of its relationship building ability. "We must capitalize better on the alumni chapters abroad in order to develop the internationalization of our programme … Alumni chapters abroad can be very effective and supportive (e.g. London, NY and Montreal)" (P3.1).

3.3.3. Marketing – Promotions Department

The role of the Marketing-Promotions department is supportive to employability in terms of promotional activities towards external stakeholders with a strong focus on image building towards companies (P3.3.) and promoting HEI3 to prospective students (P3.2, P3.3). The content on the website is fully focused on the connection with industry, the relevance of the programme with today's economic

trends in its domain, and provides up to date, factual evidence from 3rd party sources around destination data (PD3.1). Its address is highly focused on elaborating about the manner in which association with HEI3 (particularly as a student) is a gateway to a strong, up to date and meaningful professional network. The facts and figures are typically sourced from 3rd parties in order to enhance the credibility of the statement (P3.1, P3.2, P3.3). The heads of school typically liaise with the Marketing - Promotions department towards developing content to either celebrate success stories or build an effective recruitment campaign towards prospective students of which employability is a central tenet (P3.3). "The Marketing and Promotions department does a very good job at identifying successful alumni and developing content for student recruitment" (P3.1) which is communicated to internal stakeholders through posters (O3.2).

3.3.4. Incubator and student association

In support of its entrepreneurial and technology orientation, the campus has housed an on-site incubator (O3.1) for over 10 years. This incubator has an indirect link to the curriculum through the Challenge Projet d'Entreprendre and has resulted in "the creation of over 100 companies employing more than1000 people" (PD 3.1).In the periphery of extracurricular activities to foster student life, HEI3 has "60 student associations and clubs" (PD3.1). They all mix HEI3 and Engineering students which actively enables the exposure beyond ones discipline and organically grows the appreciation for trans-disciplinary thinking and practice (P3.2, P3.3). "Mixed student associations help to foster a sense of interdisciplinary value around projects and career perspectives" (P3.3). One of the clubs is active in the consulting business whereby typically trans-disciplinary teams tackle consulting projects for

companies in the field technology and innovation (P3.2). There is also a student association that is involved in supporting prospective student recruitment (P3.4), whereby the story of the learner is recognized to be far more powerful than any scripted or constructed marketing discourse (P3.3).

3.4. Theme: Industry Engagement

HEI3 prides itself in the manner in which it is able to connect with industry and make companies part of the learning experience of its students through formal and informal structures. "We have a network of 4000+ alumni that is established nationally and abroad … we have formal and informal meetings with companies" (P3.1). "We use formal meetings set up by the institution and informal meetings as a result of personal networks to build our relationship with industry"(P3.3). The engagement with companies can happen through "meetings that are part of the curriculum processes, campus events, or visits to companies" (P3.2). "Our interaction with companies can be very informal through casual conversation or very formal by means of the development of contractual agreements (according to the law in France) for internships" (P3.4).

3.4.1. Corporate Relations Office

The institution has a formal department that takes care of industry engagement called the Corporate Relations office. This department oversees and develops the relationship at HEI3 level for all its industry partners ranging from recruitment, participation in the curricular activities, being part of innovative projects with HEI3, financial support schemes and enrolment in courses of the institution (PD3.1). The former three are arguably the activities that are most related to the development of employability of the majority of graduates at HEI3, nevertheless, the

latter two are also directly related to employability but perhaps targeting a more selected group of students. The success in establishing strong industry relations is based on a spirit of win-win relationships (P3.3, P 3.4) whereby the institution is able to align its curriculum with the state of the art in the technology and IT sector, enhance its curriculum in terms of authenticity and build a highly effective network for employment for its learners. "We go to meetings with companies in order to establish a relationship that is win-win. We try to get them involved with HEI3 and invite them to campus to address our students" (P3.4) The industry partners benefit from the relationship by means of having various opportunities to engage with the upcoming talent in their field in various professional or entrepreneurial contexts, familiarize themselves with potential talents, ear mark them, present them with job offers before they hit the job market and build their company and employer brand through association and CSR related activities.

Recruitment

As indicated in previous sections, HEI3 prides itself on its destination data but this is surely not left to chance. The institution puts strong emphasis on its recruitment relation with industry and has managed to position itself over the years as an institution of choice for employers. "We function as a de facto hiring mechanism for certain companies … industry knows what our students can do and how they think" (P3.1). The larger and more established players in the industry seem to have solidified recruitment relationships with HEI3, leaving the institutional proactive focus on the smaller companies of interest. "Large companies come to us, but the smaller companies of interest we have to approach ourselves" (P3.4). "We align ourselves with companies that share our way of thinking … there are some

companies we want to work with and certain (companies) we do not want to work with based on values" (P3.2).

The benefit of an almost privileged feeder mechanism of young talent for companies is returned to HEI3 by means of participation in the Access Campus Programme. This program concerns participation in recruitment events on campus, hold targeted events to students on campus, offering internships and apprenticeships, sponsoring a class in one of the programmes offered and becoming part of the jobteaser.com network. "Our relationship with companies allows them to interact closely with our students and this helps them to earmark talent and hire them" (P3.2). "Companies participate very often in the many activities we hold on campus" (P3.3). "As part of the E-campus system, companies can log on, find and view the profiles of the students which helps them to screen for internships and identify future talent" (P3.4). The largest type of formal engagement by companies in HEI3's transformation process concerns their role in the mandatory internships which in many cases leads to a job before graduation. "It is highly common that hires occur on the back of the internships" (P3.1) and this is not surprising considering a 70% employment before graduation statistic (PD3.1). The high participation of companies in events organized on campus that relate to employability can furthermore be seen as effectively highly conducive to the employability development of HEI3's learners. "We organize four career forums per year in which around 40 companies participate in each forum" (P3.4). The use of companies to sponsor classes of particular programmes is a longer standing commitment by industry partners whereby they follow a certain cohort of a programme throughout their years of study and provide them "targeted support such as internships, case studies and employment opportunities " (P3.4). Examples of such

strategic partners are explicitly mentioned on the website inclusive of the time they supported the programme. The companies are in majority large players in the industry of Technology (PD 3.1).

Participation in curricular activities

HEI3 invites industry to become part of its curricular activities by means of "holding classes on our courses, becoming a member of the selection board for future students or by collaborating on the Advisory Board or Steering Committees."(PD3.1).

The involvement of industry in the selection of prospective students is not supported by any information apart from an 'under construction page' on the website and was not identified by any of the key informants as a practice of industry involvement.

The use of industry in a consultative capacity through the institution's advisory board and the Major specific steering committees (P3.1-4) follows good practice in HE in order to assure the institution's fitness for purpose in particular its curricular alignment (D3.1). "We try to get input from big and small companies …Employers tell us what they want –but we must be vigilant that we do not get trapped with short term company specific requirements"(P3.2). This relationship with companies through both consultative mechanism helps to "bring more authenticity to the programmes in the form of internships or other types of learning experiences that reflect what is going on in industry"(P3.3) and "they support international and national placements for authentic learning activities" (P3.1). The advisory board is more strategic in nature, whereas the steering committees are far more field and course specific. The advisory committee has the purpose of being "the main contact of

the school's management committee in terms of strategy, alliances, international

development, research themes, and educational projects of medium and long term. It

gives advice on the quality assurance, the international accreditation achievement

process and is also a high-level structure overseeing the major market trends, the

evolution of the corporate environment and the skills expected from the graduates"

(PD 3.1). The board consists of executive and managerial positions from companies in

the school's targeted field such as Google, BNP Paribas, Alcatel-Lucent, Deloite and

Orange as well as other partners such as the University of Strathclyde Glasgow (PD

3.1). "They give us insight in what is required and what makes sense for the future"

(P3.1). "The companies also give us feedback on our graduates and in general on our

image in the market" (P3.2)." They share objectives around recruitment and trends of

desired profiles"(P3.4). The steering committees are much more programme specific

and give particular information around the Majors that the programme addresses.

"Experts from small and large companies meet on a yearly basis to review

programmes … they give us feedback on our programme about its content and what

jobs there are at the end …" (P3.3). This shows not only the involvement of the

companies at a strategic, big picture level, but also its involvement in the design and

development of the programme through formal consultative mechanisms for quality

control "that are led by the professor in charge of the course" (P3.3). In terms of

quality assurance the institution also holds more targeted meetings with its corporate

partners whereby "for AOL we have conversations with companies in order to come

up with endorsements to our programme from industry" (P3.1).

The institution has decided to approach its engagement with industry

around consultations through a 'corporate day' to be more efficient and effective in

building, maintaining and capitalizing on corporate relations. "We have a corporate day in which we interact and engage with companies to show them how we work together … helps us to show the place of companies in our programmes and in what we do" (P3.2). "The corporate day aims to have many companies to come to our campus and we address them around what we do, how we use them, where they can be of help etc. Thisconsists of general sessions and sessions that are discipline focused. (e.g. steering committees). This day also allows us to show them how we can help them (e.g. research or consulting work)" (P3.3).

A third type of involvement in curricular activities is the corporate involvement in the delivery of the programme through the inclusion of professionals in the faculty on an adjunct basis to deliver courses and the provision of authentic learning opportunities for HEI3 students such as WIL or experiential learning, but also projects in other courses of the programmes (P3.1-4). The involvement of industry in curriculum delivery is highly appreciated by the institution in terms of its contribution to employability development since it provides the "reality of the work place in the programme" (P3.3). "Part-timers are key to the development of employability of students"(P3.1). "Companies form a formal part of our authentic learning experience … and they provide us with potential adjunct faculty" (P3.3). This means that not only they bring content and reality of the workplace to the programme, but are also involved in formal evaluation of the graduates, indirectly or even directly to the standard of the corporate world. "Our learners have a good understanding of what the industry is like (where) they will be working and have some actual industry experience before they finish their degree … Industry is a formal part of the evaluation of our graduates (internships but sometimes other projects)

which, if this (evaluation) is good, gives assurance we are doing the right job" (P3.1).

The early involvement of companies in the programme through internships or other

authentic learning experiences of course requires careful management by HEI3

around the expectations of its corporate partners. "Our partners are aware of risks and

demands - especially in the first year internship - they know they are getting 'novices'"

(P3.4). Through the collaboration with industry the Career and Internship Center is

able to offer its learners not only the opportunity to secure a meaningful internship,

but they deliver a wide array of support services in conjunction with industry to

develop career competencies (as addressed above). "Companies are often involved in

running workshops on campus or company led presentations that at times can count

against curricular credits (elective and compulsory)" (P3.4).

Innovation at HEI3

As "Innovation is at the heart of everything the Télécom Ecole de

Management does" (PD3.1) it displays various research topics of its teaching-research

staff on the website and proudly showcases its ETOILE facility and its on-campus

incubator (O3.1). This supports the entrepreneurial and innovative spirit of the HEI3

students and gives them the opportunity to be part of a start-up or the search for

groundbreaking innovationwhich are all for part of the constant search for alignment

with the 21st Century trends. Such endeavours are ambitious and therefore the

corporate connections of HEI3 are highly leveraged in order to realize this type of

operations. The benefit of this to its learners and the profile it gives the institution in

the HE landscape and in the labour market is certainly not detrimental to the

employability of HEI3's graduates. The institution connects its incubator with its

curricular programme through the yearly interdisciplinary "Challenge Projet

d'Entreprendre" which is typically sponsored by a company, and thereby further intertwines the engagement of industry in its curriculum (P3.3).

Financial Support Schemes

Aside from sponsoring curricular activities, HEI3 further approaches companies from an angle of building their recruitment brand by means of getting involved in financially supporting the institution by means of a taxation scheme for apprenticeships, a Foundation or supporting the promotion of social diversity on campus (PD 3.1). Such financial or other types of support are used to develop the core operations of the institution, which in its very nature supports the development of employability of its graduates. As a public institution with the lowest fees as a Grande Ecole business school in France, it is clear that financial support by the corporate donors is highly valued. The taxation scheme for apprenticeships (a national corporate finance structure) furthermore indicates the recognition of the value of WIL by the public opinion.

Enrollment in courses

A final part of the corporate relations addresses companies enrolling its employees in courses taught at HEI3 (PD 3.1). Even though any of its prorgammes is open to the public, HEI3 has an executive MBA programme that particularly targets the corporate world. In this way it does not only focus on the development and employability of young graduates, but also contributes to the further professional development of professionals in the pursuit of an executive career.

3.5. Theme: Quality Measurement

As is evident from the description of the general context of this case and of each of the above described components of the transformation process, employability

is recognized as a critical strategic competitive advantage and therefore a highly important quality indicator for the school. Bottom line evidence of quality education in an employability context is equated to "whether employers want our graduates, whether the graduates are ready to face the challenges of the 21st Century" (P3.2), "whether our graduates end up in jobs in the field of their study and a successful career path after that"(P3.1), "rankings around employment and remuneration upon graduation and 3 years later" (P3.3) and "having partnerships with the reputable companies" (P3.4).

HEI3 has a series of deliberate choices of action in place at institutional level that it sees as contributing to and safeguarding of the development of employability of its graduates to the level it aspires. In general (Table A-10), these approaches to education for employability concern a strong alignment of HEI3's curriculum to the current state of the art of the industry in which it aspires its graduates to operate as young professionals, the use of highly authentic learning experiences with an appropriate mix of hard and soft skills and the logical sequence inclusive of prerequisite knowledge and skills, compulsory exposure to the workplace and workplace practices throughout learning experience with an intimate involvement of industry in both the delivery and the assessment of the learners, a mandatory international dimension to its learning experience, an interdisciplinary approach in terms of projects, an organic mixing of learners of various disciplines through curricular and extracurricular activities, a strong focus on professional identity and career competencies through various curricular and extra-curricular activities, collection of destination data through third party administrators and engagement in national and international accreditation processes. These approaches are managed and

governed by organizational policies and procedures (D3.1) and - where appropriate -

place the learner at the center of the transformation process.

Instance	Level standardization	Level of practice	Frequency
programme review for quality assurance and industry alignment	institutional	programme	yearly
authenticity, mandatory WIL	institutional	institutional	semester
Internationalization	institutional	institutional	when required
use of external faculty	institutional	institutional	continuous
interdisciplinary approach	institutional	programme	semester
Provision of support services for career competencies	institutional	institutional	continuous
Destination data collection	institutional	external	yearly
accreditation processes	institutional	institutional and programme	when required

Table A-8 HEI3 Employability Measurement Systems

The institution recognizes the need for destination data as fundamental to the development of a quality discourse for its programme, however it also believes that, in order to develop a quality programme, there is need for careful discussion of qualitative nature with its primary stakeholders (i.e. industry and learners) to inform its approach for it to be fit for purpose. "It would be interesting to have more detailed data on our process, but it is too complicated to have separate KPI's split around the development of skills of the graduates … we trust in prerequisite knowledge and skills of our curriculum (inclusive career competencies)"(P3.2). "There is systematic consultation with industry around the curriculum and we also have personal discussions with them when opportunity presents itself" (P3.1). "We run satisfaction surveys with students on our courses and also evaluate the feedback our professors get from them" (P3.2). "The satisfaction surveys provide us quantitative and qualitative information that helps in developing a Quality argument that is particularly effective towards a prospective student audience but is equally a requirement for accreditation" (P3.3).

3.5.1. Measurement systems

Aside from the fundamental practices of quality assurance as required by local and international accreditation agencies, which reflect quality standards at institutional and at programme level (D3.1), the institution relies primarily on external agencies to provide destination data of its graduates in order to understand the effectiveness of its transformation process. "Having externals saying that we are doing a good job is much more objectively than trying to make the argument ourselves" (P3.2). This is particularly the case for the destination side around

employability of its graduates. "We gather employability information from external parties mostly and this happens on a yearly basis" (P3.2). In this regard, in France, the administration by external bodies to evaluate the HE landscape is highly developed in terms of data collection and ranking of HEI's but HEI3 also uses data produced by international institutions such as the Financial Times ranking in order to position itself in the quality discussion (PD3.1). "We use the data from externally administered surveys such as the Conference des Grandes Ecoles and the Financial Times" (P3.1, P3.3). Even though this information is collected on a yearly basis, it seems to be more a matter of compliance and brand building rather than it actively being used in terms of decision making (P3.1). It is however undeniable that the numbers that are presented suggest high delivery on the promise of employability, which in turn would intuitively lead to a rather limited triggering of changes in the approach or the process, which may be construed as non-consideration in decision making. "Employability is a topic of conversation at the senior management level" (P3.2). "Everything we do is for employability" (P3.3).

In terms of the process, the institution has the traditional quality control mechanisms in place such as course review according to quality frameworks of accreditation agencies (D3.1). It however recognizes that this is perhaps not enough in order to be able to effectively articulate and clearly evidence HEI3's process of employability development. "We do not have much data around our process except for AOL and data around the mandatory internships … it would be good to have this but it is complicated" (P3.1. P3.2). The close inclusion of and consultation with industry is presented as a fundamental quality control mechanism. "Our alignment with industry is carefully guarded by the consultations with industry … and their

inclusion in assessment … and professors and Deans manage this involvement carefully" (P3.2).

Aside from its institutional mechanisms for quality control from an academic and institutional perspective (D3.1), the most methodical system around the transformation process for employability lies with the Career and Internship Center, which has a carefully documented process around validation of internships which include the collection of professional profiles of all HEI3's learners and a CRM system of all collaborating industry partners. "Our process addresses both legal as academic requirements for internships … it is an automated process that facilitates the validation of internships … which is driven by the learners and involves the company they want to work with, the academic supervisor involved and the career center … resulting in a contract between the company and the students once all legal and academic requirements are met" (P3.4). Even though this process is facilitated through an online system on the e-campus platform and feeds into a CRM system that is managed by the Career and Internship Center, there seems to be rather little data that is systematically extracted to inform the effectiveness of the process or the evolution of the WIL part of the transformation process. "The system holds a lot of data around domains and companies where our internships are held (including internationalization), the profiles of students that enter this part of the curriculum, the types of internships they participate in and whether the internship was found through our system or through an outside system … this information is not really being used beyond reporting of some very basic information around domains of internships to the academic departments of concern … but we do take note in our CRM system of

companies where the experience has not been beneficial for the learner and we have a formal process we follow in case of issues during internships" (P3.4).

In terms of sustainability in terms of quality assurance the institution should be vigilant for the danger of weakening attention to the maintenance of quality labels such as International accreditation after attainment. Not only are they valuable additions to the employability of its graduates by association with such quality labels, but at the same time do such accreditation labels "assume a spirit and practice of continuous improvement … and this is certainly not what is used to be at the time of attainment of accreditation … employability in accreditation contexts depends on the accreditation framework … typically this revolves around destination data, AOL and for some the requirement of provision of support services around career … currently the analysis does not happen, it ends with the presentation of information" (P3.1).

3.5.2. Data

As presented in Table A-11, the data that is collected by the institution varies between qualitative and quantitative data, is of various nature in terms of granularity and is mostly used either for marketing purposes or as a progression confirmation towards degree award. "A lot of the information around employability and our system (that) we collect ourselves is qualitative since it concerns interactions with all stakeholders and discussions around what is needed, what works and what can be done, but numbers are important too, those we get from external parties" (P3.3). "We have information around hiring from national surveys and some qualitative data through personal contacts or formal evaluation processes such as consultations … by reading reports, speaking to faculty and speaking to companies"

(P3.1). "We have qualitative data from the steering committees and quantitative data from assessments our students take" (P3.2).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
AOL	qualitative	yes	medium	yes	accreditation
internationalization requirement	quantitative	yes	low	yes	awarding degree
validated internship	qualitative	yes	medium	yes	awarding degree
employment in the field	quantitative	yes	medium	yes	communication
salary upon hire	quantitative	yes	medium	yes	communication
salary after 3 years	quantitative	yes	medium	yes	communication
impressions of graduates by companies	qualitative	to some extent	low	yes	for curriculum evaluation
WOM from alumni	qualitative	no	unknown	no	
accreditation attainment	quantitative	yes	low	yes	communication
non academic endorsements	qualitative	no	unknown	no	

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
satisfaction of the learners	mixed	yes	low	yes	little evaluation around employability
alignment with industry	qualitative	yes	high	yes	curriculum design and development
Inter-disciplinarily	quantitative	no	no	yes	is given support
brand of the school	qualitative	no	low	yes	marketing activities
employment before graduation	quantitative	yes	low	yes	corporate relations
course quality review	qualitative	yes	unknown	yes	course design and development
rankings	quantitative	yes	low	yes	institutional practice
success stories	qualitative	no	high	yes	marketing activities
student profiles	qualitative	yes	high	no	
legal requirements	mixed	yes	low	yes	validation of internship
academic requirements of internship	mixed	yes	high	yes	validation of internship

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
provision of the service	quantitative	yes	low	yes	graduation requirement
industry engagement	quantitative	yes	low	yes	CRM
Useful alumni	qualitative	no	high	yes	CRM
Understanding recruitment	qualitative	yes	high	yes	support service provision
Usefulness of internships	qualitative	no	low	yes	formal learner evaluation
mediation of internships in case issues	qualitative	yes	low	yes	CRM and continuation
quality of students going into the internships	mixed	Yes – however much clearer when the learners visit the center	medium	yes	validation of internship
Desired industry partners	mixed	yes	low	yes	validation of internship

Table A-9 HEI3 Employability Measurement Data

The communication of such data to external stakeholders happens mostly through reports in cases of accreditation requirements (P3.2), through the website when its purpose is to do image building towards prospective students or other stakeholders (PD3.1) or through brochures to prospective students in more direct recruitment campaigns (P3.3). Data that is relevant for internal stakeholders is either disseminated through reports, via meetings between the concerned parties (P3.1-4) or via online channels (inclusive social media), posters or tv screens in case it is directed towards the current student body (P3.3).

In general there seems to be rather limited attention around the process of knowledge flow concerning employability as a goal of the transformation process which may require some attention in order to optimize the process, identify the strengths, and capture and sustain the effective practice currently in place. "The flow of information is quite artisan, a better system would be good. We give when we are asked and we get when we ask. There is nothing formally in place at the moment" (P3.3). "We do not share good practice around employability through the organization" (P3.1). "It would be good if we had less paperwork and more automated systems to get information to flow between all departments … " (P3.4).

APPENDIX 6 Blank Consultation Document Delphi Round 1

Dear Expert Participant,

First of all I would like to express my sincerest gratitude on your willingness to participate in this expert consultation. You are one of 7 experts that are being presented with a series of questions around a model that I am proposing for diagnosing a Higher Education Institution's process towards the goal of employability of its learners.

This consultation concerns your critical evaluation of a variety of aspects of the model in question. The input from all experts participating in this consultation will be consolidated by an administrator and inform the eventual proposal of a validated model on the basis of a variety of consensus criteria. The total consultation aims to be concluded after 2- 3 rounds (max 4) and is projected to be completed by maximum the middle of June 2016. Each round will have a specific set of elements of the model for you to evaluate according to the instruction given.

To remind you of the context of the study I have prepared a one page abstract that summarizes the study in a very concise manner followed by some opening notes in order to present some initial considerations before moving forward.

When answering the questions, please feel free to elaborate as much as you feel comfortable with in order to give me a rich picture of your considerations. At the same time, I am conscious of your busy schedules and am not expecting you to go into strenuous detail on each of the questions.

Once again, thank you very much for your participation in this consultation session. Should you require any more information, please do not hesitate to contact me as soon as possible in order to be able to meet the set deadline.

Most Respectful Regards,

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Abstract of the Study

In light of the new economic and societal realities of the 21st Century against the backdrop of the emergence of the knowledge economy and the knowledge society, employability has become a major item on the national and supranational political agenda around the world. Additionally, economic and societal trends of globalization, increased mobility of labour and increased access to education have resulted in changed career perspectives whereby the onus has shifted to the individual in terms of career management. The emergence of the knowledge economy in particular has re-ignited a debate that has been latent since the 60's around how well Higher Education Institutions deliver on their contribution to the development of the human capital required for societal and economic progress. Even though acknowledged as an issue for decades, the gap between the current labour market requirements and the profile of new graduates that enter the world of work seems to remain a topic of discussion. The construct of employability has evolved over the last few decades whereby extensive studies on the topic have illuminated its highly complex, relative and continuously evolving nature. Up to date however, the construct still suffers from

ambiguity around what it is; hence complicating the development of effective Higher Education approaches to address it. For this study the construct of employability will be holistically approached by considering three influencing factors of intrinsic, extrinsic and actionable nature. Furthermore, five themes of activities in Higher Education Institutions have been identified to hold strong potential to effectively address employability: curriculum, support services, employer engagement, quality measurement and leadership. The holistic conceptualization and the five themes will form the basis of this study's search for clarity around how employability can be addressed effectively in a Higher Education context and how this can be evaluated. Following a Design Science research methodology, through a qualitative study of three purposefully sampled case studies, extensive literature review and a Delphi Technique, this study outlines the development towards the final proposal of the Employability Development and Assessment Maturity Model (EDAMM) as a validated diagnostic mechanism to evaluate a Higher Education Institution in its fitness for purpose in terms of employability.

Opening Considerations and Perspectives

By **Higher Education Institutions** we refer to the broad concept of further education after secondary school ranging typically from vocational training to the more purist academic education resulting in a formal sense of certificate, diploma or degree. The study further views a higher educational offering as a developmental value chain in which the learner participates and which consists of a variety of activities and elements that contribute towards transforming the learners from entry level learner to (more) employable graduate.

By **Employability**, this study adopts the following notion: Employability is a construct that has evolved over time in terms of how it has informed its relevant stakeholders. The most contemporarily appropriate perspective places the individual central to the construct yet is highly cognizant of the wider context with which the individual interacts and is, due to this contextual sensitivity, to be appreciated as relative and subjective. The literature offers a variety of models and frameworks that attempt to unpack and illuminate the construct in light of its influencing factors which, when aggregated, show employability to be a multidimensional construct that can be broken down into three main influencing factors (i.e. intrinsic, extrinsic and actionable factors) that are composite, causal and interdependent in nature. Commonly identified influencing factors in all approaches to elaborate the construct of employability are mainly intrinsic in nature whereas actionable and extrinsic factors are neither always included nor extensively unpacked. Overall however, there is agreement that investment in both human and social capital through education, building experience and networking prove to be the pathway towards building one's employability. On the one hand social capital works as an

enabler for the individual to engage with the market or other opportunities to enhance employability and on the other hand human capital operates as a frame of reference used by individuals and employers to evaluate the current or potential employee's fit for purpose. In conclusion, in light of this study, the construct will be operationalized from a holistic perspective with strong consideration to cognitive, psychological, actionable and contextual dimensions as follows:

"Employability concerns the possession of a variety of competencies that enable an individual to be of productive value for themselves, the economy and society at large within an interactive context in which a variety of stakeholders participate. Employability is a relative construct that involves proactivity and adaptability to continuously position and reposition oneself in alignment with the dynamic demands of personal, economic and societal spheres. Aside from an intrinsic and extrinsic dimension, employability fundamentally includes an actionable component through the recognition of and engagement with opportunity and a positive disposition towards life-long learning to so continuously build human and social capital ultimately resulting in a person's ability to be value adding and responsive to a wide variety of individual and situational contexts with the eye on personal growth and professional success."

CONSULTATION ROUND 1

In this consultation round you are kindly asked to:

1. Score the appropriateness of Maturity Modeling for diagnosis of HEI's approach to employability. (Section 1**)**

2. Rank 5 process descriptions in terms of their level of sophistication. (Section 2**)**

3. Score the dimension of the model for appropriateness and justify the score if required. Suggest potentially missing dimensions. (Section 3**)**

4. Score the criteria that make up the dimensions of the model for appropriateness and justify the score if required. Suggest potentially missing criteria per dimension. (Section 4**)**

5. Overall additional comments (Section 5**)**

1. General Description of the Approach of Maturity Modeling towards the Diagnosis of a HEI's address of employability.

Viewing the HEI's offering as a transformation process from entry level learner to (more) employable graduate, this study aims to present a mechanism that will allow the diagnosis of this process and start a possible conversation towards improvement.

Maturity modeling is an approach to both representation and diagnosis of a process. A maturity model is typically represented in the form of a matrix that describes types of activity that make up a process at different levels of sophistication (i.e. maturity). The perspective towards maturity that is taken for this study is performance-oriented, meaning that the designer of this model believes that higher performance can be achieved by conscious dedication and commitment towards the development of a process. The designer however appreciates the realities of constraints that context may present towards this, this however falls beyond the scope of this modeling process.

Firstly, the process is unpacked by means of identifying the fundamental activities or components (referred to as dimensions in the MM literature) that make up the process. These activities or components are then again unpacked to key-indicators (referred to as criteria in the MM literature) of that activity or component. On the basis of this breakdown, the process can then be described to a level of detail that is deemed appropriate. Secondly, to recognize the variety of sophistication of a process (i.e. how good an entity is at doing something), the process is then described at different levels (i.e. levels of maturity) resulting typically in descriptions of 4 – 5

levels of maturity whereby each level

has a fundamental element of

demarcation that shows a clear

distinction in process development.

Through either self-assessment or expert assessment, an organization's process can then be diagnosed by assigning the most appropriate description that reflects its performance, allowing an overview of how mature the organization is at realizing the process in question, and indicating possible pathways towards higher levels of maturity.

Rating of appropriateness of this concept to evaluate the address of HEI's to employability:

Highly inappropriate (1)   (2)   (3)   (4) Highly appropriate

Kindly use the box below to provide initial comments on the concept of using maturity modeling to evaluate the address of HEI's to employability:

Maturity Levels		Dimensions			2		
		1					
		Criteria					
		X	Y	Z			
1	LOW MATURITY	✖		✖			
2			✖				
3					✖	✖	
4							✖
5	HIGH MATURITY						

2. **Initial overall levels of Process sophistication (i.e. Maturity).**

Kindly **rank the following overall descriptions** of approaches to addressing

employability **from least sophisticated (1) to most sophisticated (5)**.

Description	Rank
The HEI acts on the idea of realizing employability through a formal plan of strategic nature that outlines deliberate and purposeful curricular and support activities on the basis of researched effective practice. The institution shows formal commitment to the realization of employability. Employability is institutionally defined, is considered part of the organizational culture but its realization happens in siloed approaches with minimal interaction between different departments (administrative and academic or core and support) that does not go beyond reporting on performance to senior management. Priority is given to the formal curriculum; however support services are actively engaged with stakeholders in an organized manner with priority going to student support. Industry is actively involved in both curricular and support activities at various levels of invasiveness. Systematic quality measurement systems are in place. Leadership strongly endorses and supports ideas on employability and formally includes it as a decision making criteria where applicable.	

Description	Rank
The HEI has highly effective practices in place to tackle employability throughout the whole institution, sets the benchmark for the transformation process to employable graduates in its field and acts as a role model for other HEI's. All relevant departments provide regular input to one another for informed action through an informed information and knowledge sharing mechanism building on a continuously growing body of institutional research. The institution continuously fine tunes its practices through strong synergetic interaction of and engagement with internal and external stakeholders. The transformation process is highly agile and operates on the basis of future labour market intelligence, institutional research and integration of cutting edge industry practice in its curricular activities. Support services and industry relations are highly effective in interfacing between the core activity of the HEI and the relevant external stakeholders to enable relevant knowledge and information flows. The institution's impact on and network in industry and society is highly meaningful and reputable, making the HEI the partner of first choice for all stakeholders.	

Description	Rank
The HEI espouses the idea of creating employable graduates conversely but lacks developmental ability and commitment to realization of curricular and support practices deliberately geared towards employability. A strategy around the topic is lacking or lacks commitment towards implementation. Organizational discourse and documentation includes the construct but operationally this is limited to pockets of ad hoc activity at best without any sense of sustainability. Industry relations are cosmetic in nature and its impact on the transformation process does not go beyond promotional discourse and superficial input to inform the HE offering. Basic quality measurement systems are being explored or in pilot phase for part of the institution. Leadership endorses the idea of employability at conceptual level but does not prioritize its support towards development and implementation of clear action plans.	
The HEI focuses on transfer of theoretical knowledge through traditional learning environments, supporting services are underdeveloped and passive, industry relations are non-existent or do not impact the learners' employability, quality is addressed simplistically with minimal improvement plans and leadership does not consider employability a purposeful priority.	

Description	Rank
Good practice around Employability and HE is standard and forms part of the organizational fabric of the HEI. There is a dedicated strategic address around employability that consists of a clearly articulated expectation of participants in the process. There is a formally established collaborative relationship between curriculum, support services, industry and measurement. Curricular practices are highly conducive to employability and interface systematically with support services and industry in terms of design, development, delivery and assessment. Quality control reviews the employability transformation process and findings around effective practice and possible improvements are disseminated to the relevant parties in a systematic manner as part of the institutional quality assurance processes. Leadership puts employability central to its mandate, strategy and decision making by driving best practice development through institutional research and supporting scholarship.	

If desired: Overall comment on the chosen ranking

3. <u>**The EDAMM Dimensions**</u>

The general dimensions are representative of thematic activities or components that capture the processes that are directly related to the realization of the transformation process from entry level student to employable graduate. These emerged from a combination of exhaustive literature review and 3 in depth case studies at institutions that show good practice towards development of employability. The 5 emerged dimensions are: curriculum, support services, industry relations, quality measurement and leadership. This can be viewed as some form of a value chain, whereby curriculum represents the core activity and the other activities are there to complement, govern and enhance its impact on employability and through this form a comprehensive representation of all relevant activities that can take place towards potentially fostering employability in the learners. Kindly score the appropriateness of the proposed dimensions using the scale: **Highly Inappropriate (1)(2)(3)(4) Highly Appropriate** ; and *justify your scoring in case the score is below (3).*

Dimension	Description	Appropriateness score (1-2-3-4)	Justification if score below (3)
Curriculum	all formalized T&L activities in the transformation process		
Support Services	the employability oriented support services that are offered to learners in the institution		
Industry Relations	the mechanisms and invasiveness of industry (including public sector) involvement in the transformation process		

Quality Measurement	the approach to evidencing the impact of the transformation process on employability		
Leadership	the institutional management approach towards addressing employability in the HEI		

Further comments on this section (e.g. suggestion of missing dimensions?)

4. **Criteria per Dimension**

Each dimension is divided into a series of criteria. The criteria are used as critical and fundamental qualifiers for the thematic activities the dimensions represent. Kindly score each of the criteria with a appropriateness score for its diagnostic value: **Highly Inappropriate** *(1)(2)(3)(4)* **Highly Appropriate** ; and **justify your scoring in case the score is below** *(3).*

4.1.Curriculum Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Curriculum	T&L	T&L practice in terms of its focus on employability		
	Design & Course Sequence	extent to which curriculum design considers employability.		
	Curriculum Development	extent to which curriculum development considers employability		
	Faculty	the constitution of the faculty in relation to its conduciveness to employability of the learners.		
	Outcomes	alignment of learning outcomes with employability factors.		
Additional Suggestions to criteria on Curriculum dimension				

4.2. Support Services Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Support Services	Student Engagement	the level and type of engagement of learners in support services		
	Organization & Orchestration	institutional approach towards support services in terms of organizing, structure and integration with other activities		
	Staff	the expertise of the staff involved		
	Bridge to labour market	the ability of support services to be a conduit towards employment opportunities for graduates		
Additional Suggestions to criteria on Support Services dimension				

4.3.<u>Industry Relations Criteria</u>

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Industry Relations	Approach	the institutional mechanism(s) in place to develop and maintain industry relations		
	Form of relation	the nature of the relationship between the HEI and its industry partners		
	Result / Benefit for the HEI	the benefits and results for the HEI that are the outcomes of the relationship with industry		
Additional Suggestions to criteria on Industry Relation dimension				

4.4.Quality Measurement Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Quality Measurement	Data	the type of data on employability used		
	Systems	the systems in place to obtain the data		
	Analysis &Reporting	the institutional mechanism to generate information around employability in the HE context and how this is being disseminated		
	Standard & Accreditation	the approach to using a quality standard for its transformation process		
Additional Suggestions to criteria on Quality Measurement dimension				

4.5. Leadership Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Leadership	Institutional Definition	the institutional approach to articulating the concept of employability		
	Overall Strategy	the place of employability in the strategic direction of the institution		
	HR Strategy	the manner in which the human resource strategy supports the agenda of employability		
	Organizational Culture	the level to which employability is embedded in the organizational culture		
	Decision Making	the influence employability as a goal has on decision making		
	Institutional Practice	the form in which management and leadership drives the agenda of employability throughout the whole organization		
Additional Suggestions to criteria on Leadership dimension				

APPENDIX 10 Detailed Discussion Delphi Round 2

First the required tasks of Round 2 will be outlined alongside their intended validation purpose, after which the responses to each tasks will be presented and discussed. To finalize the discussion of this round, a concluding account will be formulated based on the purpose of this round with notes on how the consultation was progressed to the next round.

In this round the panel was presented with the results from Round 1 and asked to complete 4 tasks which are outlined in the left column of

Table **A-1**7. The right column of

Table **A-1**7 indicates the corresponding purpose to each task in light of the study.

Task		Purpose
1	Score the newly suggested criteria emerged from Round 1 for appropriateness as per the model's purpose and justify the score if required.	Validate the comprehensiveness of the criteria for each of the dimensions in the model.
2	Score the gradient descriptions across the maturity levels of each dimension for appropriateness as per the model's purpose and justify the score if required.	Validate the benchmarking statements per dimension for each maturity level.
3	Score the gradient descriptions across the maturity levels of each criterion for appropriateness as per the model's purpose and justify the score if required.	Validate the benchmarking statements per criterion for each maturity level.
4	Overall additional comments	General comments, critique or reservations.

Table A-15 Tasks and Purpose Delphi Round 2

1. **Task 1 Score the newly suggested criteria emerged from Round 1 for appropriateness as per the model's purpose and justify the score if required.**

   Table A-28 presents the total tally of appropriateness scores of the panel for the newly suggested criterion 'Consideration for students with learning difficulties', indicating a validation of its appropriateness as a result of >70% consensus among the panel.

Newly Suggested Criteria	Appropriateness score Tally			
	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Consideration of students with learning difficulties	0	1	0	6

Table A-26 Appropriateness Score 'Consideration for students with learning difficulties'

   The comments section revealed the reservation of one of the experts by pointing at need for vigilance that programmes should not be *"significantly downgraded risking learning outcomes for high performing students to be reduced. It is more optimal to stream the education activities to cater for different learning abilities than blend them in a compromise hybrid"*. This comment holds value, yet

rather links with the traditionally cognitive context of learning difficulties than with the employability context in which it was carefully articulated in task 1 of Round 2.

After careful consideration around the pertinence of developing a separate gradient description in this context, the researcher opted to develop an argument towards more careful/explicit inclusion of the notion of this topic in the currently existing criteria of the dimension of 'support services'. The argument was developed and advanced to Round 3 of the consultation to be scored for acceptance or rejection by the panel.

Table A-29 presents the total tally of appropriateness scores of the panel for the newly suggested criterion 'student welfare/happiness', indicating a validation of its appropriateness as a result of 100% consensus among the panel.

Newly Suggested Criteria	Appropriateness score Tally			
	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Student welfare/happiness	0	0	3	4

Table A-27 Appropriateness Score 'Student welfare/happiness'

One expert argued that "to a large extent the responsibility is on the learner to take responsibility for their own welfare. As long as programs are designed in safe and with reasonable professional standards."

After careful consideration around pertinence of developing a separate gradient description in this context, the researcher opted to develop an argument that places the notion of this topic in the 'data' criteria of the 'Quality Measurement' dimension. The argument was developed and advanced to Round 3 of the consultation to be scored for acceptance or rejection by the panel.

Table A-30 presents the total tally of appropriateness scores of the panel for each of the newly suggested criterion 'Relationship between HEI and the wider community', indicating a validation of appropriateness of this criterion as a result of 100% consensus among the panel.

Newly Suggested Criteria	Appropriateness score Tally			
	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Relationship between HEI and the wider community	0	0	4	3

Table A-28 Appropriateness Score 'Relationship with wider community'

In the comments section the relationship with community was further contended as an effective approach to authentic and experiential learning environments, enhancing the relevance of learning outcomes and strengthening the relationships with external stakeholders, inclusive the employers. These comments were not considered as a critique but rather interpreted confirming the contention of the EDAMMv1 in terms of its implicit reference to 'community' as part of the 'external stakeholders' in the dimensions 'Curriculum', 'Support Services' and 'Leadership'. It was therefore opted by the researcher to, rather than treat this as a separate criterion, to develop an argument of how the relationship with the community could be more explicitly referred to in the description of existing criteria of the current model with respect to the dimension Leadership (i.e. 'Institutional Definition', 'Overall Strategy', 'Organizational Culture' and 'Institutional Practice') and

present this argument to the panel for acceptance or rejection in round three of the

consultation.

2.   Task 2 / 3 Score the gradient descriptions of each dimension/criteria for appropriateness as per the model's purpose and justify the score if required.

2.1.   Dimension-level gradient descriptions

Table A-31 presents the total tally of appropriateness scores of the

panel for each of the dimension-level gradient description. The results indicate a

validation of all dimension-level gradient descriptions proposed in the EDAMMv1 as

a result of 100% consensus among the panel for each dimension.

Dimension	Appropriateness scores tally			
	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Curriculum	0	0	2	5
Support Services	0	0	2	5
Industry Relations	0	0	2	5
Quality Measurement	0	0	3	4
Leadership	0	0	0	7

Table A-29 Appropriateness Score Gradient Descriptions Dimensions

While no comments were noted for the dimensions 'Quality Measurement'

and 'Leadership', the panel did make a few notes on the other three.

For 'Curriculum' the notes revealed a suggestion to include a statement around

students giving "informed consideration to their employability (since) there is a need

for students to understand employability at a meta cognitive level so that they can

manage their working lives and not just respond to them". After careful

consideration, the researcher argues that this notion is implied in the 'Integrated'-level description by means of a curricular address of general, field specific and career competencies and that this is appropriate enough at dimensions level. The comment is more explicitly addressed at criteria-level in the gradient description of 'Outcomes'. Both considerations were deemed a satisfactory response to the comment resulting in no alteration to the dimension-level gradient description for 'Curriculum'.

For 'Support Services' the comments called for the use of a more specific label for the dimension by suggesting "Career and Employability Support Services" and the description at 'optimized' level was argued to need a more specific indication around the capacity of staff to be career practitioners. The suggestion of altering the label was deemed appropriate and meaningful and was therefore taken on board by means of referring to it as 'Employability Support Services' for the final version of the model. It was also deemed appropriate to slightly alter the description of the 'optimized' level by means of adding an indication of the staff being career practitioners as well as highly current with recruitment practices and talent management. This addition was not deemed to be a substantial enough alteration of the current statement to require additional review by the panel in a next round. This comment will also be addressed further in the criteria-level gradient description of 'staff'.

For 'Industry Relations' the note was made that the dimension-level description felt somewhat repetitive compared to the description of the criteria 'Bridge to the labour market' from the 'Employability Support Services' dimension. While the latter focuses strongly on the role of a support unit to be a conduit for learners towards employment, the former addresses the relationship between the HEI

and the industry from a more general perspective. As it is possible that support services for career are housed under an overarching unit of industry relations, the types of interaction between the HEI and industry of such a unit would be far more comprehensive than the facilitation of graduate employment only. It is therefore argued that the gradient statement of the 'Industry Relations' dimension is substantially different and does not require review on the basis of this comment.

2.2.   Criteria-level gradient descriptions

2.2.1.   Curriculum

Table A-32 presents the total tally of appropriateness scores of the panel for each of the 'Curriculum'-related criteria-level gradient descriptions. The results indicate a validation of all 'Curriculum'-related criteria-level gradient descriptions proposed in the EDAMMv1 as a result of 100% consensus among the panel for the criteria 'T&L' and 'Curriculum Development' and 86% consensus among the panel for the criteria 'Design & Course Sequence', 'Faculty' and 'Outcomes'. The expert that scored the three criteria as 'inappropriate' did however note that this scoring was"*not because the language or concepts are inadequate but mostly so that additional elements could be taken on board*".

The comments highlighted some areas to be given further consideration for the criteria 'Design and Course Sequence', 'Curriculum Development', 'Faculty' and 'Outcomes'.

	Appropriateness scores tally			
Criteria	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
T&L	0	0	2	5
Design & Course Sequence	0	1	1	5
Curriculum Development	0	0	1	6
Faculty	0	1	0	6
Outcomes	0	1	0	6

Table A-30 Appropriateness Score Gradient Descriptions Curriculum

Criteria

Design and Course Sequence

In the 'espoused' level description of this criterion, the use of 'low level' was

highlighted as rather ambiguous. The researcher opted for this word-choice as it was

deemed that including examples of low level authentic learning situations would be

unnecessarily prescriptive. A manual that would potentially accompany the maturity

model and outlines administration guidelines, can consider the address of the term and

outline the spectrum of low to high level authenticity of learning environments. Since

no other experts raised concerns around this, nor in other parts of the model where

similarly such ambiguity could be claimed, it was decided that a potential address in a

manual would be appropriate enough and therefore no changes were made on the basis of this comment.

In the 'enacted' level description of the same criterion it was suggested to add the term 'content' to the list of course design elements that would be guided by employability considerations. Since 'content' is considered as part of the 'Course Development' criterion rather than part of 'Course Design' and it is explicitly addressed in the 'enacted' level description of 'Course Development', it was felt to have been appropriately addressed in the proposed model.

The 'integrated' level description was questioned around its fit with postgraduate study in terms of integration of 'Employability Support Services'. The current statement was not considered to be exclusionary of postgraduate study by means of the moderating component 'where appropriate', indicating that perhaps not for every programme offered at the institution the inclusion of career support services is a must. That being said, this does not mean that the inclusion of employability support services at postgraduate level would not add to the enhancement of one's employability. Given this argument and the fact that no other expert highlighted this as an issue, it was decided that the statement is appropriate in its currently proposed form.

At the 'optimized' level, it was proposed to include 'career experts' as part of the co-designing partners of the curriculum, as the presence of 'recruitment agencies' alone was felt to perhaps focus too heavily on the short term needs of the labour market and running the risk of not giving consideration to the longer run trends of the future industry. This point was considered as highly valid and will be taken on board in the revision of this criterion. Since the argument results in a rather minor change of

the description that does not fundamentally change its current meaning, it was felt that this did not need to be proposed to the panel for re-validation.

Curriculum Development and Outcomes

One of the experts felt that the use of or reference to 'entry level job requirements' and 'young professionals' was not appropriate to the case where graduates may not be young or aim to move into jobs that are not entry level as part of the life-long learning dimension to Higher Education. To tackle this comment, the researcher decided to omit the reference to 'young professional' in its entirety of the model and to use the term 'destination job requirements' instead of 'entry level job requirements' with the inclusion of a note that 'destination job requirements' refers to the requirements of the typical jobs that make part of the starting career path after completion of the concerned study (e.g. entry level professional after an undergraduate study or manager or executive position after MA level study). Since this alteration does not result in a fundamental change of the statements, and was not raised by the other experts, it was felt this would not need to be re-validated by the panel.

Faculty

It was argued that the reference to 'having business acumen' was too narrow and isolated other professional spheres. Even though this was not picked up by other experts the point was considered highly valid. The fact that the model was designed out of 'business oriented cases' undoubtedly resulted in this word choice. To address this comment, 'business acumen' will be replaced by 'destination-field acumen' with a note that elaborates on the term 'destination field'. Again, since this change does not concern a major change in the description of the element in the model, nor change the

overall purpose or applicability of the model, it was decided that this change did not require re-validation of the panel.

2.2.2. Employability Support Services

Table A-33 presents the total tally of appropriateness scores of the panel for each of the 'Employability Support Services'-related criteria-level gradient descriptions. The results indicate a validation of all 'Employability Support Services'-related criteria-level gradient descriptions proposed in the EDAMMv1 as a result of 100% consensus among the panel for the criteria 'Student Engagement', 'Organization & Orchestration' and 'Bridge to the labour market' and 86% consensus among the panel for the criteria 'Staff'.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Employability Support Services	Student Engagement	0	0	2	5
	Organization & orchestration	0	0	3	4
	Staff	0	1	4	2
	Bridge to labour market	0	0	4	3

Table A-31 Appropriateness Score Gradient Descriptions Employability Support Services Criteria

The comments highlighted some areas to be given further consideration for the criteria 'Organization & Orchestration', 'Staff' and 'Bridge to labour market'. For the criterion 'Organization & Orchestration' it was highlighted that the 'optimized' level description could better include the notion that it ensures the detail of the 'Integrated' level. Upon review it was noted that perhaps this notion was too implicitly addressed and would benefit from the addition of 'Additionally to being integrated in academic activities Employability Support Services are … ' in order to address this comment. The nature of progressively more mature statements would suggest that the rest of the experts assumed the integration to be implicit and prerequisite to optimization. The alteration of the statement enhances its clarity rather than changing the nature of the statement, and was therefore not considered to need re-validation by the panel.

Comments on the description of the criterion 'Staff' highlighted the need for attention to the proposed backgrounds and subsequent notion of professional development. It was suggested that at the 'integrated' level description the addition of curriculum development acumen could be beneficial. This comment was withheld sinceit complements and further explicates the notions of integration stated in the criterion of 'Organization & Orchestration' more explicit. At the 'optimized' level the explicit statement of 'professional recruitment background' was noted as concerning since "the big money is in recruitment *(*and therefore this expertise is*)* not attracted to HEI roles. Recruiters are in touch with employers but not with getting graduates with C passes into the labour market. This doesn*'*t increase the numbers of students getting into work. They may not understand employability as a concept or education generally." The researcher felt the current statement did indicate the value

(and therefore need) of expertise in career development whereby the career background was considered an additional 'arrow on the bow'. In order to better articulate this, it was decided to rephrase the statement and replace 'recruitment background' with 'understanding of professional recruitment practice'. At both levels, professional development is considered as an organizational expectation and can address the continuous up-skilling in career, curriculum or recruitment domains. The changes made to the statements are considered as enhancing the clarity rather than changing the content of the statement and are therefore not considered as necessary to be re-validated by the panel.

Comments on the 'Bridge to Labour Market' criterion suggested review of the term 'place' in the 'optimized' level description on the back of this being *"counter to what employability is all about i.e being self-managing, being able to get ongoing employment in spite of instability in the labour market"*. The researcher opted to rephrase the statement by replacing the term 'place' with 'introduce …to' resulting in a perhaps more appropriate description: "…highly effective mechanism to *introduce* current students *to* employment situations …". The 'optimized' level description was further critiqued by questioning the insinuation that large companies would be better destinations. The choice of 'highly meaningful and desired' as qualifying statements towards the destinations of graduates have by no means the intention to imply the suggested critique of favouring large companies, yet on the contraryintend to capture thevalue recognition of various types of companies or work-settings to potentially hold meaningfulness for a graduate depending on contextual factors.

2.2.3. Industry Relations

Table A-34 presents the total tally of appropriateness scores of the panel for each of the 'Industry Relations'-related criteria-level gradient descriptions. The results indicate a validation of all 'Industry Relations'-related criteria-level gradient descriptions proposed in the EDAMMv1 as a result of 100% consensus among the panel for the criterion 'Form of relation' and 86% consensus among the panel for the criteria ·Approach· and ·Result/Benefit for the HEI·.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Industry Relations	Approach	0	1	3	3
	Form of relation	0	0	3	4
	Result / benefit for the HEI	0	1	1	5

Table A-32 Appropriateness Score Gradient Descriptions Industry Relations Criteria

Comments on the 'Approach' criterion indicated the risk at 'integrated' level of the suggested approach to result in 'Industry relations' to become a silo. It was therefore suggested to explicate systemic links with other parts of the HEI in particular with curriculum and support services. The first part of the statement however argues the existence of "a systematic approach to industry relations by means of departmental contact points that form an internal network that governs the industry relations of the organization". The 'departmental contact points' allude to

academic and support units. The explicit stating of the formation of an 'internal network' is exactly there to point at the avoidance of siloed approaches. Since no other experts raised any concerns, this comment was argued to be addressed satisfactorily by means of changing the word 'systematic' with 'systemic'.

The 'Result/benefit for the HEI' criterion was critiqued on its description at 'optimized' level to be elitist instead of balanced and open. This is not the intention of the statement, yet at 'optimized' level it is however the case that an institution would enjoy the advantage or the luxury of choosing its partners. The statement concerns the benefit/result of association in contrast to the approach to forging the relationships. The position of being the HEI of choice as per the perspective of industry and learners does not make it necessary elitist. Intuitively it would be advisable that a HEI uses a combination of working with renowned firms and start-ups in order to keep the proverbial ear to the ground across the full spectrum of industry as evidenced by each of the three cases discussed earlier in this document.

2.2.4.   Quality Measurement

Table A-35 presents the total tally of appropriateness scores of the panel for each of the 'Quality Measurement'-related criteria-level gradient descriptions. The results indicate a validation of all 'Quality Measurement'-related criteria-level gradient descriptions proposed in the EDAMMv1 as a result of 100% consensus among the panel for the criteria 'Systems', 'Analysis & Reporting' and 'Standard & Accreditation' and 86% consensus among the panel for the criterion 'Data'.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Quality Measurement	Data	0	1	2	4
	Systems	0	0	4	3
	Analysis &Reporting	0	0	2	5
	Standard & Accreditation	0	0	2	5

Table A-33 Appropriateness Score Gradient Descriptions Quality Measurement Criteria

The comments in this section concern the criteria 'Data' and 'Systems'. For the 'Data' criterion it was highlighted that the levels 'integrated' and 'optimized' would benefit from explicitly including the type of data to be used. The 'integrated' and 'optimized' level descriptions in the EDAMMv1 respectively include the phrasing 'comprehensive employability data on the local external environment, institutional transformation process, learners and graduates' and 'highly detailed, highly current employability data on local and global external environment, institutional transformation process, learners and graduates' which arguably implies more than the mere inclusion of data types presented at 'enacted' level. To avoid

being overly prescriptive and constraining it was felt that the last two levels would not require a detailed listing of the types of data, rather indicating the sophistication level by means of the used terminology.

At the 'integrated' level description of the criterion 'Systems', it was suggested to include 'employer satisfaction' as a data type to be collected. At the outset of the statement employers satisfaction was intended to be included in data of 'destination', however, it was felt that explicit mentioning of 'employer satisfaction' would highlight its importance and give consideration around ways to collect such data in an effective, valid and reliable way. Even though no other experts highlighted this issue, it was felt appropriate to add 'employer satisfaction' to this level's description. The new description was not considered to require re-validation by the panel in a following round because the addition merely clarifies and provides higher detail not changing the fundamental meaning of the statement.

2.2.5. Leadership

Table A-36 presents the total tally of appropriateness scores of the panel for each of the 'Leadership'-related criteria-level gradient descriptions. The results indicate a validation of all 'Leadership'-related criteria-level gradient descriptions proposed in the EDAMMv1 as a result of 100% consensus among the panel for the criteria 'Overall Strategy', 'HR Strategy', 'Organizational Culture', 'Decision making' and 'Institutional practice' and 86% consensus among the panel for the criterion 'Institutional Definition'.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Leadership	Institutional definition	0	1	1	5
	Overall Strategy	0	0	3	4
	HR Strategy	0	0	2	5
	Organizational Culture	0	0	1	6
	Decision making	0	0	3	4
	Institutional practice	0	0	1	6

Table A-34 Appropriateness Score Gradient Descriptions Leadership Criteria

The 'Leadership' dimension's criteria descriptions only generated one
comment around the criterion 'Institutional Definition' whereby the question was
raised what this criterion adds to the evaluation of the manner in which the HEI
addresses employability – even though this was not raised as an issue in Round 1. The
progressively more complex outline of elements that make up the definition of
employability have as a purpose to present a baseline understanding for all
stakeholders of the HEI, making this criterion highly valuable and indicative of the
general common understanding across the institution. This is of course interrelated

with criteria such as 'Organizational Culture' and 'Institutional Practice'. The comment was therefore not considered to warrant for change to the description of the criterion.

3. Closing comments for Round 2

Overall additional comments highlighted the complexity of the model from a perspective that it is highly comprehensive, well considered and carefully articulated. The second round was argued to be "thought provoking both in terms of how employability is to be integrated across all the activities and operations of an HEI as well as in terms of the underlying philosophy as to the purposes of higher education in the 21st century".

The goal of employability was recognized as important and worthwhile yet it was also reiterated that other purposes of HE should not be marginalized. It was suggested that the overall HE landscape should present a balanced address to delivering "a stream of employable graduates across a wide range of career types – from vocational through practitioner careers through the academic researchers and teachers" and give consideration to the fact that "some jobs require a base knowledge with significant learning on the job and others require strongly developed cognitive skills and prescribed knowledge to get started". It is indeed so – as is also noted in the literature review of this study - that there are various types of HEIs ranging from the 'pure sang' academic institutions to institutions that provide further education highly focused on professional certification. It is however arguably so that the engagement of the majority of learners in either of these institutions is aimed at professional development in one way or another and therefore has an employability oriented purpose to this engagement. How this translates in prioritizing the practical or the

theoretical side of things is entirely up to the institution's perspective on how it believes the development of the learner is to be tackled in context of the aspired end result. This being said, the model does not intend to argue for the sole importance of employability nor for the sole address of employability in a HE context, but aims to be a tool for institutional diagnosis towards improvement.

Considering the purpose of Round 2 as outlined at the outset of this section, Table A-37 summarizes the attainment of the objectives through this round with relevant notes towards Round 3.

Purpose		Notes
1	Validate the comprehensiveness of the criteria for each of the dimensions in the model.	All newly suggested topics were validated as appropriate to be included in the diagnostic context, which, in combination with the results from round 1 (task 3 and 4) result in the validation of the comprehensiveness of the elements identified towards building the EDAMMv2. After careful consideration it was decided to not develop gradient descriptions for the three newly proposed topics due to the possibility to integrate them into existing criteria in search for higher parsimony. These rationales for integration are presented for acceptance or rejection to the panel in Round 3.

	Purpose	Notes
2	Validate the benchmarking statements per dimension for each maturity level.	All proposed benchmarking statements at dimension level were validated as per the termination criteria of the Delphi Technique. Comments resulted in a minor alteration of the ·Employability Support Services, dimension level gradient statements. Since this change did not substantially alter the content or the manner in which the dimension would be interpreted, it was not found required to present it for revalidation to the panel in Round 3.
3	Validate the benchmarking statements per criterion for each maturity level.	All proposed benchmarking statements at criteria level were validated as per the termination criteria of the Delphi Technique. Various minor suggestions were proposed resulting in minor alterations of 15 criteria level gradient statements. Yet, since the changes did not substantially alter the content or the manner in which the criteria would be interpreted, it was not found required to present them for revalidation to the panel in round 3.

	Purpose	Notes
4	General comments, critique or reservations.	No further issues were raised around the approach, the method, the content or any other element of the model or the consultation process.

Table A-35 Purpose Attainment Round 2

APPENDIX 11 Detailed Discussion Delphi Round 3

In this section the required tasks of Round 3 will be outlined alongside their intended validation purpose, after which the responses to each tasks will be presented and discussed. To finalize the discussion of this round, a concluding account will be formulated based on the purpose of this round.

In this round the participants were presented with the results from the previous round and asked to complete four tasks which are outlined in the left column of Table A-38. The right column of Table A-38 indicates the corresponding validating purpose to each task in light of the study.

Task		Validation Purpose
1	Score and comment on the appropriateness of the rationales concerning the ability of the existing criteria to absorb the newly suggested elements that emerged from consultation Round 1 and were scored as appropriate in Round 2	Validate the ability of the current model's gradient descriptions at dimension or criteria level to appropriately capture the newly proposed notions, resulting in the non-requirement of developing further gradient descriptions for each.
2	Assign weightings at the dimension level for the total model.	Arrive, across the total model, at a consensual assignment of the relative diagnostic power of each of its dimensions.

Task		Validation Purpose
3	Assign weightings at the criteria level for each of the dimensions of the model.	Arrive, per dimension, at a consensual assignment of the relative diagnostic power of its criteria.
4	Overall additional comments	General comments, critique or reservations.

Table A-36 Tasks and Purpose Round 3

1. **Task 1 Score and comment on the appropriateness of the rationales concerning the ability of the existing criteria to absorb the newly suggested elements that emerged from consultation Round 1 and were scored as appropriate in Round 2**

Table A-39 presents the total tally of acceptance/rejection scores of the panel for each of the presented rationales. The results indicate unanimous acceptance by the full panel of all proposed rationales for how the newly proposed elements do not require a separate gradient description due to adequate address in the existing validated gradient descriptions of dimensions and/or criteria (Appendix 7).

Total Tally of Acceptance / Rejection scores per rationale				
Rationale	Strongly Reject	Reject	Accept	Strongly Accept
1	0	0	2	5
2	0	0	2	5
3	0	0	1	6

Table A-37 Acceptance/Rejection Score Rationales

The comments section only revealed notes concerning the first rationale around 'consideration for students with learning difficulties' whereby it was highlighted that as much as it is the institution's responsibility to consider appropriate support for learning difficulties, it is equally the institution's responsibility to make sure no time or money is wasted due to inappropriate admittance with respect to employability prospects as a result of learning difficulties.

Given the unanimous acceptance of all three rationales, it can be concluded that the identified criteria as proposed per the EDAMMv1 are considered as appropriately comprehensive for its purpose.

2. **Task 2/3 Assign weightings at the dimension level for the total model and at the criteria level per dimension.**

2.1. **Overall approach to the final weighting allocations**

In order to get an impression of the panel's valuation of the relative importance of each of the components (i.e. dimensions and criteria) of the model, the panel was asked to assign weightings to the dimensions for the total model and to each of the criteria per dimension. For each section of weighting assignment (i.e. one section for all dimensions and five sections for the criteria per dimension), the panelists were invited to comment on the choice of highest and lowest weighting. Based on the submitted weightings, a rank was assigned for each dimension/criteria per respondent with a corresponding ranking value following an inverted value table based on the number of resulting ranks. The rank values where then used to calculate an average rank value (AVR) across all panelists in order to assign a final weighting. AVRs were calculated based on >70% consensus rank values whereby outlier values

were omitted where appropriate and possible. Comments and notes of the panel were

used to further illuminate the results.

2.2. Weightings at dimension level for the total model

Table A-40 presents the weightings assigned for each dimension per respondent and

its resulting rank.

	Weightings assigned							Rank based on assigned weightings						
Dimension	P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
Curriculum	30	25	20	40	60	40	30	1	2	1	1	1	1	2
Support Services	10	15	20	20	10	10	10	3	3	1	3	3	4	3
Industry Relations	10	15	20	5	15	15	10	3	3	1	5	2	3	3
Quality Measurement	30	10	20	25	5	15	10	1	4	1	2	4	3	3
Leadership	20	35	20	10	10	20	40	2	1	1	4	3	2	1

Table A-38 Assigned Weightings and Resulting Rank per Dimension

Table A-Table A-41presents the Rank Value per dimension per respondent, the subsequent ARV at >70% consensus level and the resulting weighting assigned to the dimension. The omitted outlier rank values are highlighted.

	Rank value based on assigned weightings								
Dimension	P1	P2	P3	P4	P5	P6	P7	ARV	weighting
Curriculum	5	4	5	5	5	5	4	4.71	25.70%
Employability Support Services	2	3	5	3	3	2	3	2.67	14.54%
Industry Relations	3	3	5	1	4	3	3	3.20	17.45%
Quality Measurement	5	2	5	4	2	3	3	3.43	18.69%
Leadership	4	5	5	2	3	4	5	4.33	23.62%
								18.34	100.00%

Table A-39 Rank Value, ARV and Final Weighting Dimensions

The resulting weightings indicate higher importance of 'Curriculum' and 'Leadership' compared to the other dimensions, with a total range of difference between the highest and the lowest resulting weighting of 11.16%. The weightings indicate a fairly equal significance of Curriculum and Leadership with respectively 25.7% and 23.62%, followed by the pair of 'Quality Measurement' and 'Industry Relations' with respective weightings of 18.69% and 17.45%, and with 'Employability Support Services' as the lowest level of importance at 14.54%. The

nominal weighting values can be argued to support the diagnostic relevance of each dimension of the model.

The comments of the experts noted the fact that the address to employability needs to be "systemic, not ad hoc". Nevertheless, the primary importance of 'Curriculum' was recognized since "ultimately learning outcomes are most impacted by quality of learning facilitation and the curriculum". The curriculum "is the core of education" …"on which the learners build their employability skills" (and) "weaknesses in curriculum can hardly be compensated by other dimensions". 'Leadership', as second most important dimension was stated to require 'robustness' "in order to achieve the mission and goals of the institution" whereby its absence would result in "no common purpose within the institution". 'Employability Support Services', 'Quality Measurement' and 'Industry Relations' were noted to "strengthen the quality of the learning experience and the engagement of the learner". 'Quality Measurement' was identified as "necessary" and the external dependence context of the 'Industry Relations' was highlighted as a potential reason for it being weighted lower relative to most others. 'Employability Support Services' was further highlighted as "supportive to faculty" as well as the learner.

2.3. Weightings at criteria level per dimension

2.3.1. Curriculum

Table A-42 presents the weightings assigned for all criteria in the Curriculum dimension per respondent and its resulting rank.

Curriculum	Criteria	Weightings assigned							Rank based on assigned weightings						
		P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
	T&L	40	15	20	25	15	15	20	1	4	1	1	3	5	1
	Design & Course Sequence	20	21	20	15	15	10	20	4	2	1	3	3	4	1
	Curriculum Development	15	21	20	20	20	20	20	3	2	1	2	2	3	1
	Faculty	15	18	20	20	40	30	20	3	3	1	2	1	1	1
	Outcomes	10	25	20	20	10	25	20	2	1	1	2	4	2	1

Table A-40 Assigned Weightings and Resulting Rank per Curriculum Criteria

Table A-43 presents the Rank Values for all criteria in the Curriculum dimension per respondent, the subsequent ARVs at >70% consensus level and the resulting weighting assigned to each criterion. The omitted outlier rank values are highlighted.

	Criteria	Rank value based on assigned weightings							ARV	weighting
		P1	P2	P3	P4	P5	P6	P7		
Curriculum	T&L	5	2	5	5	3	1	5	4.60	22.10%
	Design & Course Sequence	2	4	5	3	3	2	5	3.43	16.47%
	Curriculum Development	3	4	5	4	4	3	5	4.00	19.22%
	Faculty	3	3	5	4	5	5	5	4.29	20.59%
	Outcomes	4	5	5	4	2	4	5	4.50	21.62%
									total	100.00%

Table A-41 Rank Value, ARV and Final Weighting Curriculum Criteria

With a difference of only 6% between the lowest and the highest weighting it is fair to say that all criteria for curriculum are evaluated as equally important. For the lowest scored criteria 'Design & Course sequence' it was noted that "it does not really matter where and when in the curriculum it happens, as long as it happens". 'T&L' was noted to be "the core of this dimension", "at the heart of HE" and "deserving the highest priority". 'Curriculum Development' was argued as having to be "carried out optimally" by a 'Faculty' that has an "appropriate mix of theoretical knowledge and practical work experience" and "exhibit employability skills at the highest level". Even though one of the experts argued 'Outcomes' to be a logical result if all other criteria are "attended to appropriately", this criterion was also referred to as the "ultimate measure of success" of a curriculum.

2.3.2. Employability Support Services

Table A-44 presents the weightings assigned for all criteria in the Employability

Support Services dimension per respondent and its resulting rank.

	Criteria	Weightings assigned							Rank based on assigned weightings						
		P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
Employability Support Services	Student Engagement	50	20	25	35	25	10	35	1	3	1	1	1	4	1
	Organization & Orchestration	20	15	25	15	25	40	15	2	4	1	4	1	1	2
	Staff	20	25	25	30	25	30	35	2	2	1	2	1	2	1
	Bridge to labour market	10	40	25	20	25	20	15	3	1	1	3	1	3	2

Table A-42 Assigned Weightings and Resulting Rank per Employability Support Services Criteria

 Table A-Table A-45 presents the Rank Values for all criteria in the

Employability Support Services dimension per respondent, the subsequent ARVs at

>70% consensus level and the resulting weighting assigned to each criterion. The

omitted outlier rank values are highlighted.

	Rank value based on assigned weightings								
Criteria	P1	P2	P3	P4	P5	P6	P7	ARV	weighting
Student Engagement	4	2	4	4	4	3	4	4.00	28.51%
Organization & Orchestration	3	1	4	1	4	4	3	3.60	25.66%
Staff	3	3	4	3	4	3	4	3.43	24.44%
Bridge to labour market	2	4	4	2	4	2	3	3.00	21.38%
								total	100.00%

(Row label spanning the left of the table: *Employability Support Services*)

Table A-43 Rank Value, ARV and Final Weighting Employability Support Services Criteria

With a difference of 7.13% between the highest and the lowest weighting it

seems that all criteria for this dimension are considered as considerably important.

'Student Engagement' is noted as "fundamental", "crucial" and "a key aspect in

evaluating support services". It was further argued that engagement of students is a

direct result from "structure".'Organization & Orchestration' is further also argued as

important since "having a comprehensive and strategic view of what employability is

and how it can be achieved precedes service provision". In that vein the attention was

also drawn to the importance of "informed and well-trained staff". The manner in

which 'Employability Support Services' operate as a 'Bridge to the labour market'

was noted as consequential from the "relevance and quality of the other criteria". It was however still considered as one of the "essential roles" of the support services by means of "supporting student for graduate employment, internships and showcasing the institution".

2.3.3. Industry Relations

Table A-46 presents the weightings assigned for all criteria in the Industry Relations dimension per respondent and its resulting rank.

		Weightings assigned							Rank based on assigned weightings						
	Criteria	P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
Industry Relations	Approach	50	35	30	40	30	50	40	1	2	2	1	2	1	1
	Form of relation	30	45	30	30	30	20	30	2	1	2	2	2	3	2
	Result / benefit for the HEI	20	20	40	30	40	30	30	3	3	1	2	1	2	2

Table A-44 Assigned Weightings and Resulting Rank per Industry Relations Criteria

Table A-47 presents the Rank Values for all criteria in the Industry Relations dimension per respondent, the subsequent ARVs at >70% consensus level and the

resulting weighting assigned to each criterion. The omitted outlier rank values are highlighted.

| | Criteria | Rank value based on assigned weightings | | | | | | | ARV | weighting |
		P1	P2	P3	P4	P5	P6	P7		
Industry Relations	Approach	3	2	2	3	2	3	3	2.57	39.13%
	Form of relation	2	3	2	2	2	1	2	2.00	30.43%
	Result / benefit for the HEI	1	1	3	2	3	2	2	2.00	30.43%
									total	100.00%

Table A-45 Rank Value, ARV and Final Weighting Industry Relations Criteria

Both 'Form of relation' and 'Result/Benefit for HEI' were considered as equally important with weighting of 30.43% whereas the 'Approach' to how the HEI tackles its 'Industry Relations' activities was weighted almost 10% higher. The 'Approach' was argued to be the "big picture of what and how it happens" and therefore "fundamental" to making 'Industry Relations' a "meaningful part of the institutional approach to employability". It was also noted that only through "well-established and formal relationship productive and meaningful relationships with industry are forged with regard to informing the curriculum, development and review of programs, internships, graduate placements and employability" referring to the importance of the 'form or the relationship'. In this regard it was also stated that a "long term" and "strategic" nature is further highly preferred in the context of employability development. 'Result/benefit for the HEI' was noted as consequential to

the efforts of approach and the types of relationships are being pursued yet "need to

be measured to ensure success".

2.3.4. Quality Measurement

Table A-48 presents the weightings assigned for all criteria in the Quality

Measurement dimension per respondent and its resulting rank.

		Weightings assigned							Rank based on assigned weightings						
	Criteria	P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
Quality Measurement	Data	40	25	25	20	25	10	30	1	2	1	3	2	1	1
	Systems	30	25	25	20	25	20	25	2	2	1	3	2	2	2
	Analysis & Reporting	20	35	25	25	20	30	30	3	1	1	2	3	3	1
	Standard & Accreditation	10	15	25	35	30	40	15	4	3	1	1	1	4	3

Table A-46 Assigned Weightings and Resulting Rank per Quality Measurement Criteria

Table A-49 presents the Rank Values for all criteria in the Quality

Measurement dimension per respondent, the subsequent ARVs at >70% consensus

level and the resulting weighting assigned to each criterion. The omitted outlier rank values are highlighted.

	Criteria	Rank value based on assigned weightings							ARV	weighting
		P1	P2	P3	P4	P5	P6	P7		
Quality Measurement	Data	4	3	4	2	3	4	4	3.67	28.13%
	Systems	3	3	4	2	3	3	3	3.17	24.30%
	Analysis & Reporting	2	4	4	3	2	2	4	3.00	23.02%
	Standard & Accreditation	1	2	4	4	4	1	2	3.20	24.55%
									total	100.00%

Table A-47 1Rank Value, ARV and Final Weighting Quality Measurement Criteria

The gap between the highest and lowest weighting for the criteria of this dimension is only 5.11%, indicating that each of the criteria are highly reflective of their dimensions and need to be appreciated in unison. With 'Data' coming out as the slightly more important criterion, the other three criteria are weighted virtually equal to each other. It was furthermore noted that "the quality and scope of the data collected is critical to the relevance of the measures" with a "range of meaningful data … not relegated to box ticking". Data and systems were both argued as the foundation to reporting and analysis towards "achieving and maintaining desired standards and accreditation". The point was raised however that "whiles systems and data

collections are important, without analysis and reporting, the others operate in a vacuum and no improvement takes place".

2.3.5. Leadership

Table A-Table A-50 presents the weightings assigned for all criteria in the Leadership dimension per respondent and its resulting rank.

	Criteria	Weightings assigned							Rank based on assigned weightings						
		P1	P2	P3	P4	P5	P6	P7	P1	P2	P3	P4	P5	P6	P7
	Institutional Definition	5	25	15	5	5	30	10	4	1	2	4	4	1	2
	Overall Strategy	20	15	15	20	10	20	10	2	3	2	2	3	3	2
	HR Strategy	10	10	15	15	10	5	10	3	4	2	3	3	5	2
	Organizational Culture	25	15	15	30	30	25	30	1	3	2	1	2	2	1
	Decision making	20	20	15	15	10	10	30	2	2	2	3	3	4	1
Leadership	Institutional Practice	20	15	25	15	35	10	10	2	3	1	3	1	4	2

Table A-48 Assigned Weightings and Resulting Rank per Leadership Criteria

Table A-51 presents the Rank Values for all criteria in the Leadership dimension per

respondent, the subsequent ARVs at >70% consensus level and the resulting

weighting assigned to each criterion. The omitted outlier rank values are highlighted.

	Criteria	Rank value based on assigned weightings							ARV	weighting
		P1	P2	P3	P4	P5	P6	P7		
Leadership	Institutional Definition	2	5	4	2	2	5	4	2.80	12.80%
	Overall Strategy	4	3	4	4	3	3	4	3.57	16.33%
	HR Strategy	3	2	4	3	3	1	4	3.40	15.55%
	Organizational Culture	5	3	4	5	4	4	5	4.50	20.57%
	Decision making	4	4	4	3	3	2	5	3.60	16.46%
	Institutional Practice	4	3	5	3	5	2	4	4.00	18.29%
									total	100.00%

Table A-49 Rank Value, ARV and Final Weighting Leadership Criteria

The difference between the highest weighted criterion 'Organizational

Culture' and the lowest weighted criterion 'Institutional definition' constitutes 7.77%.

With the gap between the one but lowest weighed criterion being only 5%, the

weightings would suggest the criterion of "institutional definition" to be somewhat of

an outlier, yet when looking at the rankings, the panel was almost equally divided

between rating it as very important and not so important. In order the argue consensus

between the experts, it was decided to omit the high importance rankings.

Nevertheless it was noted that "there needs to be a clear conceptualization of the

institution; its identity and purpose. This allows for a robust strategy to be developed, along with clear objectives and action points to achieve them". Even a lower ranking for the criterion was still accompanied by a note that "it is important and must be in place". Strategic considerations overall and at HR level were together with 'Decision making' not commented on beyond a statement they were structural basics to the institution that "support institutional practice as a result of organizational culture". The latter two criteria received the highest weightings and were both asserted as "most critical". The organizational culture was noted as the one thing in leadership that "ultimately endures". It was also argued to be determinant of "how all of the other factors interact with each other … the real value is how the people interact and how they care about the way in which they facilitate learning experiences for the learners". 'Institutional Practice' was pointed out to be "significant to achieve the desired outcomes" as it is "about putting theories into practice … where things actually get done".

3. Closing comments for Round 3

In conclusion of this round the panel pointed at the study to be "interesting and good this is being collated" and "rigorous". The final round in particular was noted to have "required considerable thought to complete. This is testament to the rigour of the research project."

Considering the purpose of round 3 outlined at the outset of this section, Table A-52 summarizes the attainment of the objectives of this round with relevant notes towards closing the Delphi Technique.

Purpose		Notes
1	Validate the ability of the current model's gradient descriptions at dimension or criteria level to appropriately capture the newly proposed notions, resulting in the non-requirement of developing further gradient descriptions for each.	Based the consensus over the ability of the current model's gradient descriptions to capture the newly proposed notions, the model can be considered fully validated at the level of its semantic content.
2	Arrive, across the total model, at a consensual assignment of the relative diagnostic power of each of its dimensions.	A consensually agreed (>70% consensus) weightings assignment was reached at dimensional level of the model, requiring no further consultation in this regard.
3	Arrive at, per dimension, a consensual assignment of the relative diagnostic power of its criteria.	A consensually agreed (>70% consensus) weightings assignment was reached at criteria level per dimension, requiring no further consultation in this regard.
4	General comments, critique or reservations.	No further issues were raised around the approach, the method, the content or any other element of the model or the consultation process.

Table A-50 Purpose Attainment Round 3

APPENDIX 12 SAMPLE The EDAMM Administration Sheet

Dear Respondent,

This survey is designed to collect data based on a model that is to function as a diagnostic tool to determine at which the level your Higher Education Institution addresses the goal of developing employable graduates.

Based on your understanding of the institution, your position and your tenure, you have been identified as a highly valuable source for information in this context. The purpose of this evaluation is to identify and outline the current state of the institution's address to employability in order to explore potential avenues for improvement. It is by no means to be used as part of a performance appraisal of individuals that participate or are referenced in this diagnosis.

This survey consists of 5 sections that cover key activities in a HEI's potential address to employability. Over all 5 sections a total of 22 factors are being presented for your evaluation by scoring them according to a presented table. It is important that your score represents that statement that is most closely related to the reality of your institution. For each scoring are further asked to explain your response and support this with as many meaningful statements of evidence you believe can factually be presented in support of your answer. You are kindly asked to deduct your answer to the stated questions based on your understanding and factual experiences at the institution.

Should you feel there are questions you cannot answer confidently, feel free to select the 'no opinion' option. At the end of each section there will be a space where you may include additional comments or remarks based on the topics you have reviewed in that section.

<u>Respondent Contact Details and Profile information</u>

Name:

Email:

Telephone number:

Department in the HEI:

Current Position at the HEI:

Prior Positions at this HEI:

Years of Service:
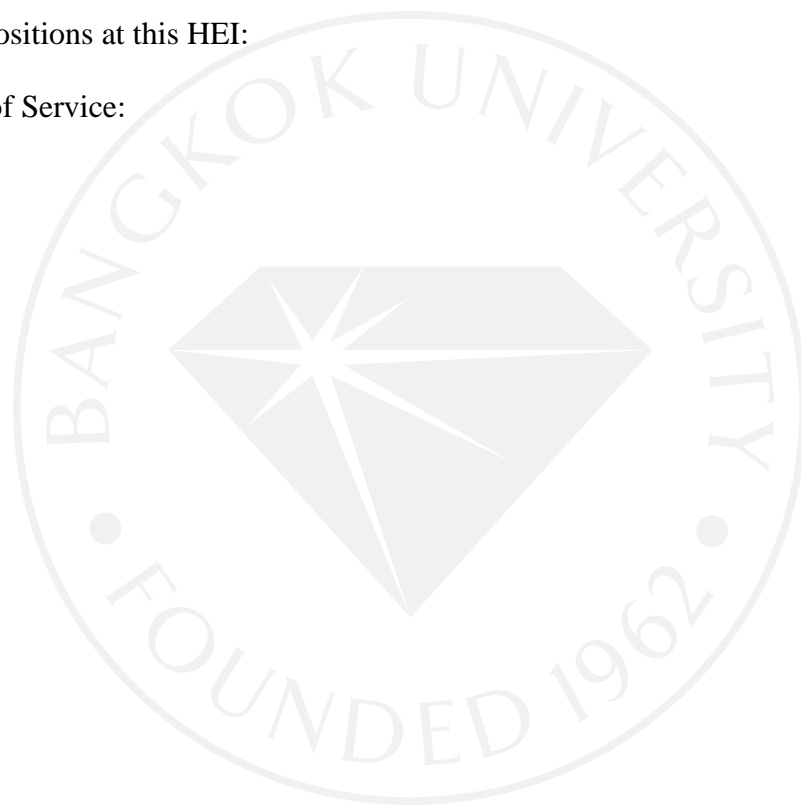
Section 1 Curriculum

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
1.TEACHING & LEARNING	Traditional tutor centered T&L approach with a focus on transferring field specific theoretical knowledge. Assessment is mostly focused on regurgitation of theory through traditional assessment processes. Assessment is done by a theory specialist.	T&L approach is articulated to be student centered in nature inclusive of some broad practices that are conducive to employability. T&L practice that focuses on KSAO's is promoted yet only limitedly practiced across all its facets due to a consistent lack organizational capability and commitment. T&L practice is not formally informed by employability-conducive methods or techniques.	T&L approach is clearly outlined in relation to the development of employability by committing to student centered, developmental T&L practices that are conducive to employability. Employability development is given specific attention in course documentation and guides the faculty's action as learning facilitators. Curriculum delivery is focused on application of knowledge and includes practices of experiential and work integrated learning.	T&L practice is highly informed by employability-conducive principles of authenticity, student centeredness, collaborative learning, reflection and activity orientation. Such principles are consistently and systematically applied with contextual consideration and form the fundamental T&L DNA of the institution. The delivery is transformational and integrates internal and externally relevant partners in terms of employability on a regular basis (e.g. employers, career center, industry relations, ...) T&L	T&L practice is highly conducive to employability and operates at the cutting edge of pedagogy and andragogy. The practice is often referred to as a benchmark for national and international practice in HE as it is informed by and continuously refined for the changing nature of the learners and its

	Traditional	Espoused	Enacted	Integrated	Optimized
1.TEACHING & LEARNING		Employability can be argued to indirectly form part of the assessment criteria in a very general sense at best. This is typically linked to an internship requirement for graduation. Other course assessment is argued to address employability through the mapping of the learning outcomes with little specific employability measurement in place and is mainly focused on evidencing 'knowing' theory.	Throughout the programme assessment consistently makes direct and indirect links to employability elements in alignment with the institutional definition and framework of employability. Assessment is generally based on the evaluation of evidenced outputs of students in context of their field of study. The level of assessment authenticity generally increases as the student progresses through the program.	practice includes a sense of career guidance as part of the developmental approach of early professionals. Assessments are highly authentic throughout the program in alignment with the reality of the future field of employment. Industry expectations form a strong part of the assessment of students' work, inclusive of a formal statement around general employability at the end of the programme. Assessment involves a variety of stakeholders including peers.	context. The results of the total battery of assessments are highly indicative of the employability of the evaluated learner. Assessment practice is constantly refined and fine-tuned against the changing requirements of the labour market and future trends of economic and societal development.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
2.OUTCOMES	Course and programme outcomes focus on theory. The profile of the graduate reflects a theoretical specialist in the field with little or no consideration of practical skill or ability to	Course and programme outcomes strongly reflect knowing but include some concepts of doing. Knowledge acquisition is given priority over knowledge application in most cases.	Graduate profiles are competency oriented and have explicit statements on employability in terms of required KSAO's in the field of study. Programme and course outcomes are focused on operating as a	Even though Industry standards and expectations are prioritized in the development of graduate profiles there is a sense of societal values woven within the corporate context. The programme aims to transform learners into	The programme aims to produce well balanced, confident, focused and confident professionals with strong field specific expertise, a variety of work related experience and a strong sense of personal and professional identity. The profile of the graduate prioritizes personal dispositions

| | apply knowledge. | The profile of the graduate reflects a theoretical specialist with some ability to apply the knowledge in low level authentic environments. | destination level professional in the field with some wider organizational acumen. Outcomes generally cover field specific notions around knowing, doing and being. | professionals through specific outcomes in relation to knowing, doing and being. The programme outputs graduates that are in high demand in their field. but also prove to have a positive disposition towards lifelong learning and career management. | around proactivity and lifelong learning alongside highly relevant industry specific and transferable competencies. Graduates are the first choice of employers and typically are offered meaningful positions prior to graduation. Track records of alumni evidence a considerable proportion of high achievers in professional and societal context. |

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REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
3.FACULTY	Pure Academics	Some of the faculty has industry experience but the majority of the faculty consists of academics.	The faculty teaching at the higher level courses consists of individuals with overall relevant industry experience.	Faculty consists of a balance between academics that are active in industry (e.g. applied research or consulting) and contracted industry professionals. Faculty members teaching in majors are professionally certified in their field.	The faculty members are of a hybrid academic/industry nature with very strong destination field acumen and highly current with the state of the art in industry and professional practice and strong awareness of both local and global economic and societal environments. The faculty has received basic training in career counseling and career management.

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REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
4.CURRICULUM DEVELOPMENT	Curriculum Development is governed by field specific academic and teaching team according to traditional academic principles of content density and traditional learning environments and methods. Review considers academic principles in compliance with academic	Course development attempts to address employability by mostly low level authentic approaches (e.g. case studies or guest speakers). Course documentation does not make consistent and explicit reference to employability related points of attention. Course review includes basic qualifying factors around	Employability development is a guiding consideration for course development and re-development in terms of content selection and materials and methods in support of delivery and assessment. This is strongly guided by graduate destination and destination level job requirements. Facilitating the access to an authentic learning environment is the ultimate aim. Lower level	Course development is highly guided by industry practice and career requirements through consultation with internal and external stakeholders. The courses largely integrate work specific topics and applications as well as career notions in its content. The learner's development of relevant field specific,	Courses are developed with the future careers of the learners in mind and consist of content and learning environments that prepare the learners for the current and future workplace, labour market, economy and society. Each course has a clear address towards career and lifelong learning alongside the field specific competencies and soft skills it is addressing. Each course has been carefully constructed with a clear purpose in the larger transformation process the HEI has in place. Each course is

quality assurance mechanisms with little or no consideration for employability factors. Content is selected by teaching faculty.	employability by mapping course learning outcomes against employability in terms of required KSAO's but is mainly focused on field specific knowledge and some application thereof.	courses recognize the importance of theoretical fundamentals and knowledge acquisition in context of the field of study, where higher level courses are increasingly complex and developed in a problem-solution context. Course development and review gives consideration to the course's place in the employability development process.	general and career related competencies in learners is addressed in the programme through a scaffolding approach. Course and curriculum development includes cross departmental projects where possible and appropriate. Course review includes consultation with support services for relevant components.	continuously reviewed and informed by best contextualized best practices, data and expectations of the destinations of the graduates. Courses are developed as transformative learning experiences. Course review considers a large variety of external factors alongside alignment with internal adjustments that are made in other courses or programmes where relevant.

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5. DESIGN & COURSE SEQUENCE	Curriculum design is done in a traditional way by means of a selection of credit bearing courses that comprise in majority of theoretical and fundamental field specific content sequenced according to increasing field specialty. Design is governed by an institutional	Curriculum design follows a traditional approach by means of a selected sequence of credit bearing courses inclusive of an internship. The bulk of the courses are set up to include application of knowledge through mainly low level authenticity. Programme learning outcomes are overall related to general abilities within the field of study. Career pathways are generally identified. Curriculum design is governed by a institutional	The institutional approach to curriculum design considers employability as a principal guide for consideration of T&L approach, types of courses, course sequencing and credit allocation. Curriculum design is guided by requirements of the labour market, is competency	Employability is the central tenet around which the curriculum is being designed as a result of systematic consultation with a variety of internal and external stakeholders. Institutionally standardized approaches are of the nature of internships, work integrated and problem based learning, apprenticeships, experiential development etc. Curriculum evaluation and	The curriculum is built around the presently emerging and future labour market trends through a course structure that is highly responsive to change and enormously impactful around preparing the learner to become a value adding individual in society. Learners are exposed to both leading trends and high-end niche practice from around the world. The curriculum is co-designed with a variety of relevant stakeholders such

	curriculum unit in collaboration with field specific academics. Changes in course or programme design do not formally consider employability related aspects.	curriculum unit and realized in collaboration with primarily field specific academic faculty but inclusive of some consideration of environmental information or external stakeholders in an employability context. Changes in course or programme design consider employability related aspects in a very general and broad manner at best.	oriented and aims for progressively higher levels of authenticity throughout the programme. Review of the curriculum includes employability as a primary qualifying factor from a faculty perspective and to some extent from a student perspective.	review includes internal and external stakeholders' input and requires formal industry endorsement of some kind before going ahead. Institution wide, developmental activities offered by support services are included as elective or mandatory credit bearing components of the programme where appropriate.	as leading employers, high potential startups, recruitment agencies, career experts, social entrepreneurs, NGO's etc. Reviews of programmes happens continuously through widening the consultation with more partners towards building a programme design that is agile, responsive and proactive to the dynamic context of economic and societal trends.

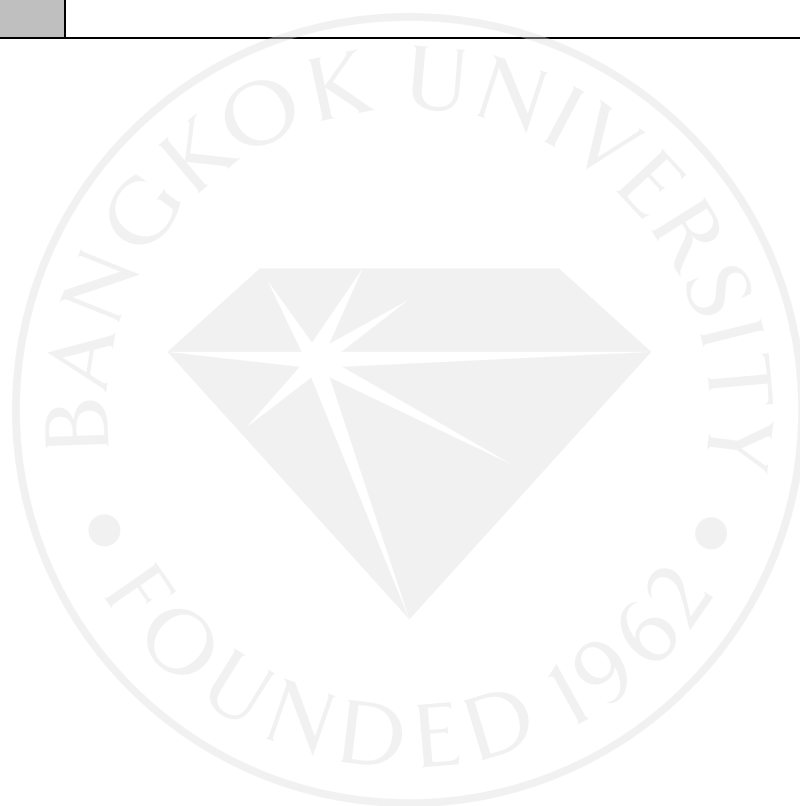| RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Section 2Leadership

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
6. ORGANIZATIONAL CULTURE	The members of the organization do not consider employability as a purpose of HE beyond it being incidental. Employability of learners and the effect of the educational offering is not part of the formal or informal discourse at any level within the organization. Employability	Employability is part of the formal rhetoric of the organization but does not permeate through the activities the organization undertakes. The construct is at best cosmetically present in the campus environment and is topic of conversation in some isolated instances. The goal of employability, even though	Employability is considered as the purpose of the organization by most of its members and recognized as a potential point of differentiation in the HE landscape. It is actively championed at various levels but in reality is given most attention in curricular activities. It is a topic of formal conversation	Employability is recognized by all organizational members as part of purposeful HE and is embraced at organizational, departmental and individual level. Where relevant, all members of the organization consider the goal of employability consistently in their activities. As part of the formal and informal conversations within and between departments, it is a common ground that forges meaningful and effective information exchange and collaboration between different departments.	Everything the organization does is first and foremost directed towards developing employability of its learners or towards enhancing the organizational ability to tackle the matter. Knowledge and information around the topic continuously flows through the organization through formal

supporting projects are not actively championed, nor is employability used in the institutional rhetoric	articulated at institutional level does not find root in the day to day operations of the organization. Employability is a merely a recurring theme in the institutional rhetoric for both internal and external communication.	around the core activities of the organization and at strategic level but still lacks organization wide buy-in. Employability is the central conversation point with external stakeholders inclusive its community. The physical environment shows signs of employability-conducive elements.	Learners are highly aware of and engaged in the employability context. The physical environment is purposefully designed to express the value of employability. Employability systematically resonates in institutional rhetoric to all its stakeholders, decor, activities and collaborations as the number one priority and goal for the HEI.	informal communication channels. It is evident that the whole organizational activity gravitates towards the construct driven by a strong sense of continuous improvement and search for excellence.

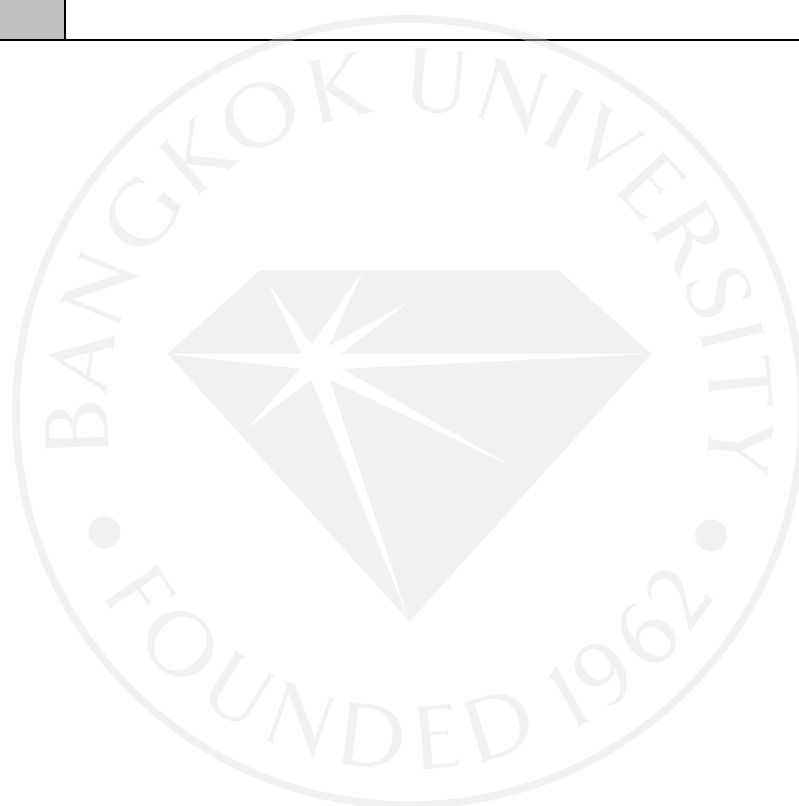| RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

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7.INSTITUTIONAL PRACTICE	No benchmarks are used other than destination data. Employability is not seen as a critical factor of distinction.	Management suggests actions around employability to faculty and staff through investigation and evaluation of best practices and developing dialogue towards implementation at appropriate levels.	A standardized approach to employability is endorsed by the institution and benchmarked against good/best practice. Institutional research on employability is formalized through a designated unit and engagement by faculty is incentivized. Association with professional authorities in the various fields of study is expedited.	Good practice is the norm and best practice is celebrated throughout the organization. Institutional research reports on current practices at both programme and institutional level. There is an institutional community of practice that exchanges ideas building a strong body of knowledge around how to tackle employability.	The institution has contextualized best practice and systematically fine-tunes its approach trough continuous incremental innovation of its process. Through close and effective collaboration with all its primary and secondary stakeholders the institution is highly agile and consistently features in the scholarly environment as highly effective and exemplary.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
8.DECISION MAKING	Decision making does not consider employability as a qualifying factor for planning, resource allocation or evaluation practice.	Decision making recognizes employability as a qualifying factor for planning, resource allocation and evaluation practice but lacks appropriate mechanisms to do so. Graduate employability is a formalized KPI at institutional level.	Employability is used as a formal indicator in the evaluation of organizational performance both at process and at output level by means of basic processes.	Leadership puts employability central to its activities by considering it as an important evaluative factor for decision making. Projects are evaluated and given support on the basis of their contribution to employability. Evaluation of organizational performance on employability is formalized in department specific KPI's with clear and department specific processes in place.	The goal of employability as the highest institutional priority drives all decision making in the organization.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
9.OVERALL STRATEGY	Employability does not have an articulated place in the strategy of the organization. It is not considered as a formal objective or purpose of HE. There is no specific set of processes, or policies in place towards this goal.	Employability is recognized as an important point of attention by the institution. It is part of the articulated aspirations of the institution, but lacks strategic implementation. Employability limited to be part of the overarching organizational objectives.	Employability is a formal part of the strategic plan. Employability is actively considered as a competitive advantage for the HEI. The goal is broken down into some sense of sub goals for relevant organizational activities. The organization has a function that carries the formal accountability against the goal.	The institution places employability high on the strategic agenda and considers its realization a priority. Resources are allocated directly in support of the realization of this goal at institutional and activity specific level. The organization uses results around employability actively as a central topic of conversation to all stakeholders. The institution has actively assigned dedicated resources in the organization to address employability at various levels of the organization and in various activities ranging from academic to community service.	Employability is the top priority towards which every other activity is geared towards in terms of planning, organization, implementation and evaluation.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
10.HR STRATEGY	Recruitment strategy of academic field specialists in line with the programmes and supporting opportunities for professional development to maintain currency in their field.	HR structures that support the organization of support activities with recruitment of generally relevant professional profiles for support activities. Some sense of inclusion of employability in the orientation programme of new staff, mostly geared towards academic faculty.	Employability forms a formal part of the orientation for all relevant activities. Recruitment happens on the basis of profiles that are suitable for the realization of employability through a learning offering that aligns with industry and through support activities that are conducive to employability. Professional development around employability is encouraged and supported.	The institution carefully recruits profiles that are suitable for the employability transformation it offers its learners. Job requirements include where relevant formal considerations around employability related factors (e.g. industry experience or professional qualifications). Performance evaluation includes employability related KPI's for some of the functions. Professional development that enhances the ability of the institution to address employability is prioritized.	Professional development activities around currency with the latest trends in HE and employability are institutionalized. Personnel have on average a very well rounded profile that includes all facets of the transformation process with accents in expertise around the specific activity they engage with.

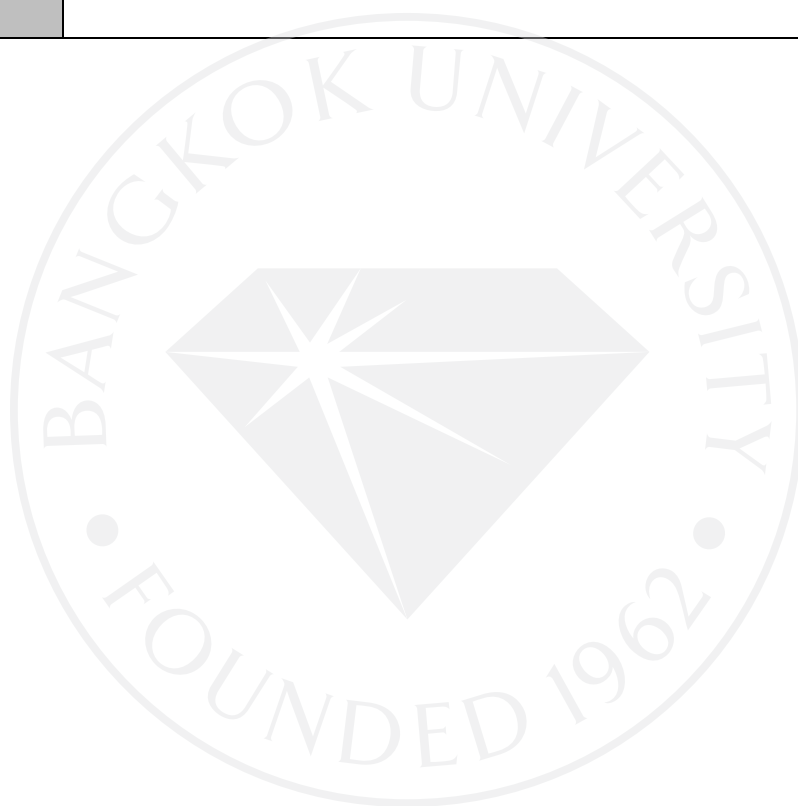| RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
11.INSTITUTIONAL DEFINITION	There is no formal institutional definition.	There is a formal rhetoric around employability that is primarily based on buzzword semantics.	The definition of employability has primarily national relevance and holds substance that is linked to a larger approach to employability development. The construct is defined with a focus on work-readiness.	An institution wide definition of employability is developed in collaboration with external stakeholders and holds relevance to external and internal environment of the HEI inclusive of its community. The construct is furthermore broken down into a variety of concepts that allow contextualization across programmes and institutional activities. The definition approaches employability from a lens of human capital relevant to the future economy and its community.	The institutional definition of employability is a clear reflection of the well balanced individuals that will be required for the future in both economic and societal context. The definition and the institutional understanding of the construct consistently link with the programme and institutional outcomes. The definition is holistic and connects ideas such as lifelong learning, career competencies and societal development.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Section 3 Quality Measurement

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
12.DATA	Basic demographic, academic and destination data only (simple metrics e.g. employment status before graduation, after graduation, 3 months, salaries)	Basic demographic, academic and destination data, some general labour market information, some general data on the employability development process.	Varied levels of data on the local external environment (economic and labour market), academic transformation process, support activities, learners and graduates: e.g. Comprehensive demographic, academic and destination data with follow up, up to date labour market intelligence, detailed data (qual or quant) on the process of employability development, some data on results of the employability development process, formal employer appraisals of learner's work according to institutional assessment frameworks. Evaluation of curriculum and overall experience by students	Comprehensive employability data on the local external environment, institutional transformation process, learners and graduates. Sector specific labour market intelligence according to programmes. Future trends and strategic public policy emphasis in local labour market. Data profiles per learner. Best practice data	Highly detailed, highly current employability data on local and global external environment, institutional transformation process, learners and graduates. Highly relevant or tailored metrics of labour market requirements and programme specific profiles representative of specific industries and employers. Detailed process metrics and KPI's reflecting the institutional transformation intention and the

			includes a component dedicated to employability and welfare/happiness.	and information on employability and HE.	reality of the learners' development. Data and information on the state of the art in HE for employability. Detailed career path data on graduates.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
13.STANDARD & ACCREDITATION	The standard around employability is internally decided in compliance with guidelines of national relevant educational standards in terms of contents that need to be covered and administrative procedures that need to be in place. Employability is seen as a by-product of a quality	Even though employability is not part of an institutional policy, quality considerations around employability are given some attention in curricular activities. External parties are consulted at the outset of the program to establish an internally generated standard in relation to	Employability is formally recognized as a quality indicator for the overall performance of the HEI yet this is mostly viewed so in terms of curricular activities. Review, validation, quality assurance and accreditation exercises of all programmes include employability as a formal component. Some general	The address of the HEI towards employability is holistic in nature and considered as a priority quality indicator for its overall operations. Professional industry standards and industry expectations are formally known and understood for each program. Labour market expectations and realities are understood to benchmark	The HEI is constantly fine-tuning its employability address through systematic large and small scale reviews and external validations beyond the required national, international and professional accreditation requirements. The address of the HEI towards employability is often referenced as the field quality benchmark. The institution is committed to exceed the requirements and expectations of

academic process.	how the program addresses employability. There is lack of common understanding by all stakeholders on the topic. The institution complies with the national accreditation guidelines around employability.	quality indicators refer back to the performance of the curricular activities in the context of employability. The institutional review process addresses the performance of support activities. The institution has formally stated objectives around how the institution aims to address employability. The programmes are aligning with credible and meaningful professional	expected outputs of supporting activities. Both areas of activities form part of a formal and systematic review process of the institutional approach towards employability with the eye on continuous improvement. The offered programmes are accredited by professional certification bodies. The institution is placed highly rankings that consider	industry and the labour market. Each of the offered programs is endorsed by professional accrediting bodies and a wide spectrum of entities in both the private and public sector. Each of the programmes has a variety of employability relevant third party recognized achievements. The institution is invited to showcase its practice and engage in professional development for other HEI's either through professional or governmental development programmes.

			certification bodies.	employability indicators.	

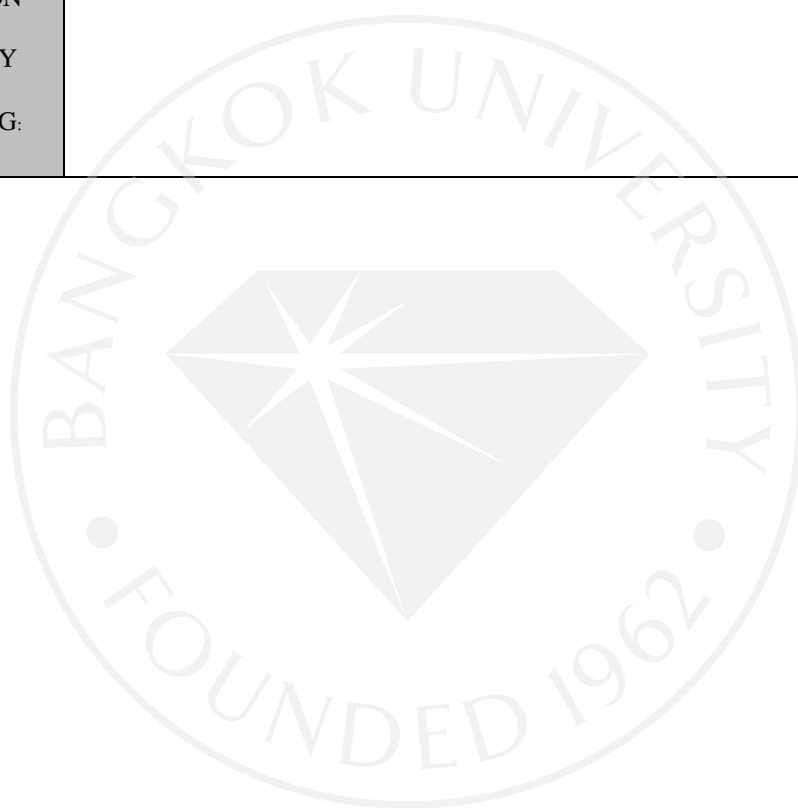|	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
RATING						
REASON FOR MY RATING:						

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14.SYSTEMS	Simplistic use of SIS system alongside yearly collection of destination data through phone or online survey.	SIS system alongside yearly destination data collection through phone or online survey, secondary research or superficial consultation with industry on labour market requirements and Isolated efforts of piloting data collection mechanisms concerning the institutional transformation process.	SIS system, systematic destination data collection and use of semi-systematic data collection mechanisms on the transformation process and labour market requirements.	Systematic employability data collection around environment, process, learners, destination and employer satisfaction. The institutional transformation process is broken down in metrics or qualifiers through a 360 degree approach that includes internal and external stakeholders.	Systematic, automated and highly regular collection of a comprehensive data set of employability data that are highly relevant to the context of institutional and programme specific practice around employability and HE on the one hand and particular specifics to the HEI in question around environment, process, learners and destination. Specialist external partners feed highly reliable and highly significant data to the institution.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

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	Traditional	Espoused	Enacted	Integrated	Optimized
15.ANALYSIS & REPORTING	Very simplistic analysis for compliance reporting purposes only. Reports are mainly produced on external demand and are generally not used for evaluation, feedback or improvement purposes.	Basic analysis around destination data, qualitative analysis around labour market requirements. Reporting on employability data is not standardized beyond compliance requirements. Findings of analysis and reporting provide limited feedback to internal	Semi systematic employability data analysis and established reporting mechanisms at the level of labour market requirements, destination data, demographic data, academic performance and curricular contributions to employability development. More ad hoc or siloed	Systematic analysis and reporting of employability data around curricular process, output and context. Semi-Systematic in depth analysis and reporting on employability data around programme or course specific impacts and the total institutional transformation process towards the generation of comprehensive employability profiles per student. On As part of the review cycles, gaps between labour market requirements	Highly in depth analysis and highly tailored reporting of employability data inclusive of comparing up to date contextual, process and destination data, inclusive of the ability to run simulations around context, process and destination. Ability to generate instant snap shots in time around current performance of the transformation process in context. Professional

		stakeholders and are only sporadically used for evaluation or improvement.	analysis and reporting of employability data at the level of program and institutional transformation process without established analysis or reporting mechanisms.	and the HEI's intended/realized outcomes are identified and reported on for improvement. Data and analysis is reported back to relevant stakeholders in a format and granularity relevant to its use. Good practice and poor practice is flagged and respectively celebrated or investigated.	development requirements are systematically highlighted and reported at relevant level. Automated or semi-automated suggestions around optimized approaches towards meeting graduate profile requirements. Key external partners are included in the performance reporting.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Section 4 Industry Relations

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

		Traditional	Espoused	Enacted	Integrated	Optimized
16.APPROACH		There is no formal approach or structure to engage with industry.	The institution develops relationships with industry through each of the departments in a rather organic manner without a formal approach to institutional network building. Relationship building is ad hoc.	The institution has a formal department that is charged with the development of industry relations. Many meaningful and practical contacts are still developed through informal or personal networks of members outside the industry relations department.	The institution has a systemic approach to industry relations by means of departmental contact points that form an internal network that governs the industry relations of the organization. The network is governed by designated account managers and a relationship management system.	The institutional and personal networks of industry relations are intertwined and easily accessible to anyone in the institution through a highly sophisticated relationship management system that allows for the identification of desirable industry relationships on the basis of automated queries and historical interaction. At the same time it captures a sense of desired human capital profiles for each of the organizations.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
17.FORM OF RELATION	no or very superficial, passive relationship around informing the HEI about the labour market (and is at best research oriented.)	The relationship is mainly conversational in nature around labour market realities with little significant information exchange. The relationship is largely of PR nature.	The relationship is one of partnerships for information exchange to align the approach of the HEI to the labour market requirements.	Effective, synergistic relationships between the HEI and industry The relationships have clearly identified goals which are reported on throughout the collaboration.	Highly mutually beneficial relationships between the HEI and industry spanning across a variety of areas is developed and sustained (e.g. information and knowledge exchange, financial or other support, operational and strategic collaboration, etc…) The HEI becomes the partner of choice for industry and its relation is seen by both as symbiotic.

	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
RATING						
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
18. RESULT/BENEFIT FOR THE HEI	industry relationship is not valued as pertinent towards the goal of employability	The institution mainly capitalizes on the relationships through PR opportunities and superficially towards informing its rhetoric around aligning the value offering of the HEI with the labour market.	Industry provides input for the institutional definition of employability and further refinement of the construct at program level. Enthusiastic industry members get actively involved in supporting curriculum design, development (steering committees) and to a certain extent delivery and assessment (internships, WIL, etc.). Industry is engaged with support services.	Industry involvement in curriculum design & development (inclusive of review), T&L activities and support services is the norm. Detailed labour market intelligence informs strategic considerations for the HEI around programme offerings and support services.	Industry approaches the institution for privileged association and partnerships. The institution can choose its industry partners. The network of the institution offers very high leverage for the HEI towards securing inputs to further strengthen its value offering and towards producing quality outputs through its transformation process. The HEI's has developed a highly competitive profile in the HE landscape through the association with selected industry partners.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						
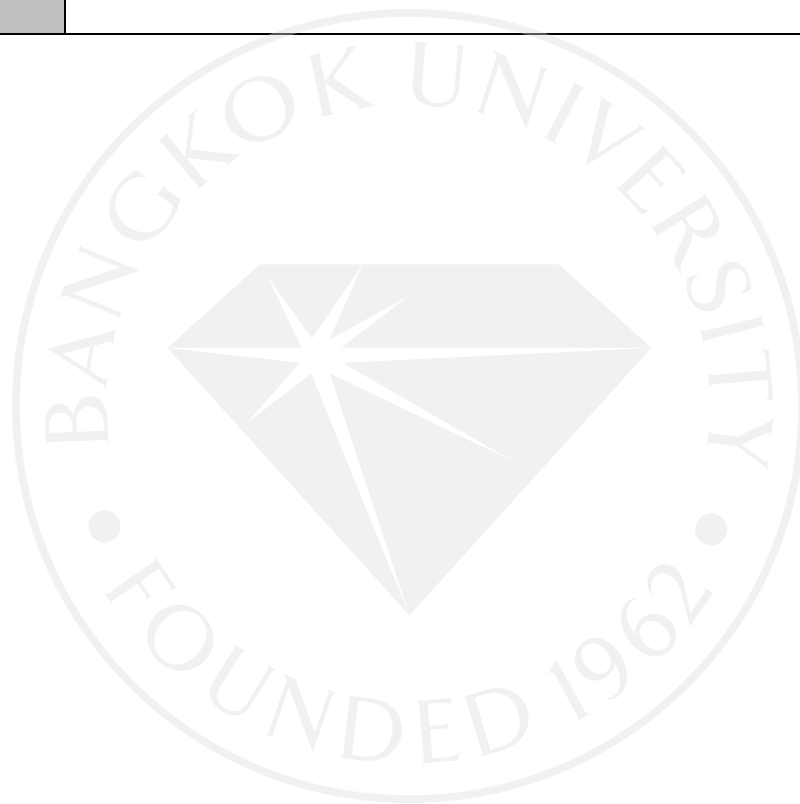
Section 4 Employability Support Services

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
19.STUDENT ENGAGEMENT	Engagement with/of learners is low.	Engagement with/of learners is mostly limited to communication about the services and some interaction with highly motivated and interested learners.	Engagement with students is prioritized, actively pursued and recorded. Engagement with students with special learning needs in an employability context is addressed. Engagement is more common among learners in specialization years or near graduation.	Engagement with students is high due to some form of compulsory interaction with the support services. There is some form of engagement that spans across the total learner body due to relevant services offered.	The majority of learners actively seeks out the services and respond highly positive. Senior learners support junior learners in the development of career competencies.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
20.ORGANIZATION & ORCHESTRATION	The institution provides few and ad hoc activities around career support with little or no engagement of internal or external stakeholders.	Employability support services consists of a series of ad hoc activities in the realm of career support that happen in isolation from one another and from the rest of the institutional activities and departments. Engagement of internal and external stakeholders is not systematic and remains superficial. Communication around the activities is partially	There is a formal, planned calendar of employability support activities covering a range of employability related topics, inclusive of considerations for learning difficulties in an employability context. Activities are formally and systematically communicated to internal and external stakeholders with overall	The employability support activities are delivered in orchestra with the curriculum delivery and sequence as complement to - or through active participation in T&L activities that relate to employability inclusive of consultative collaboration towards design and development. There is formalized collaboration with the Learning Support Services when appropriate. Some of the support services activities are formally set as credit bearing options in the curriculum. Career services office further continues engaging with Alumni in a mutually beneficial relationship. Engagement with internal and external stakeholders is systematic and significant in terms of	'Additionally to being integrated in academic activities Employability Support Services are highly aligned with - and responsive to the current trends in the labour market. They advise on general and specialty career competencies and develop tailored career profiles for engaging learners. The units' involvement in the organizational knowledge flow

		effective in terms of awareness of internal stakeholders.	reasonable awareness among internal stakeholders. Engagement with stakeholders is established practice in terms of information exchange but mostly superficial in terms of involvement.	information exchange and involvement in the realization of the support activities. Support services unit forms part of the organizational information flow around employability.	around employability is highly significant particularly in terms of providing detailed, programme specific and highly meaningful inputs around the current and future labour market requirements.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
21. STAFF	Few in number and mostly untrained in career counseling or career management skills	The head of the department has experience in the field, yet assigned staff has limited experience in career counseling.	Assigned staff has undergone formal training for career counseling and career management according to national or international standards. Professional development opportunities are available allowing for up-skilling in career, curriculum or recruitment domains.	Assigned staff consists of qualified experts in the field of career counseling and career management with curriculum development acumen. Professional development in the field is required, partially supported and forms part of the performance appraisal.	Assigned staff consists of experts in the field of career counseling and career management with understanding of professional recruitment practice and curriculum development experience. Professional development is part of a systematic HR developmental strategy. Opportunities identified by the staff are supported by the organization. Staff operates as PD facilitators for other HEI's.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

Based on the following 5 statements in the maturity table below, please indicate with an X in the table at the bottom of this page which statement best represents the current practice at your HEI?

	Traditional	Espoused	Enacted	Integrated	Optimized
22. BRIDGE TO THE LABOURMARKET	no conducive role	In theory the bridge builder, but in practice the results are not very impactful.	Employability support activities are institution wide recognized and promoted as the conduit towards the labour market. This takes the form of job fairs, guest speakers, workshops, active alumni and special learning needs support in an employability context. There is limited reporting around placing current students or graduates in employment situations. There are pockets of formally supported specialty activities around entrepreneurship.	Support services effectively secure, communicate, deliver and report on placing graduates and current students in employment situations. Collaboration with industry relations is high under the form of meaningful exchanges of information and network building. There is an institutionally supported center to nurture entrepreneurship.	Employability support services operate as a secure conduit to employment through a strong network and highly effective mechanism to introduce current students to employment situations that eventually build towards full time employment in highly meaningful and desired companies and positions. The institution has a formal and effective mechanism in place to spin off startups.

RATING	No Opinion - 0	Traditional - 1	Espoused - 2	Enacted - 3	Integrated - 4	Optimized - 5
REASON FOR MY RATING:						

APPENDIX 2 Sample Documentation around securing participation of Key Informants for interviews

SAMPLE - Introductory Email for Participants in Interviews

Dear (Name of the Participant),

I trust you are doing well.

In realization of a research study I have been given the green light from (Name of Authorizing stakeholder of the Institution) to conduct interviews with key informants to outline (Name of the Institution) as a case study on how a Higher Education Institution can address graduate employability.

Based on your position, tenure and knowledge of the institution, you perfectly meet the profile of a key informant for this case study. I therefore would most humbly like to call upon your goodwill to participate in an anonymous face to face interview of approximately 1 hour. The interview would be conducted in English. You are free to decline this meeting request in case you do not want to be part of this study. Should you accept my request then please be advised that the time and date presented in this meeting request is only a suggestion. Should you feel this does not suit you, I am very happy to reschedule.

Attached 4 documents that will help you to prepare for this interview:

1. A brief introduction to the study.

2. The participant information sheet that outlines some more details around being a participant in this research study.

3. The consent form related to participating in this research study.

4. The questions that will be asked during your interview session.

I would like to thank you in advance for your willingness to participate in this and hope this timing will be suitable for you.

Should you have any more questions or reservations, I will be more than happy to address them for your convenience and comfort.

Most respectful regards,

Philippe Vande Wiele

Philippe.vandewiele@polytechnic.bh

00973-39865963

Phd Research Project Brief

Research Title:

The development of a Model to diagnose a Higher Education Institution on its address of employability.

Researcher:

Philippe Vande Wiele

Phd Candidate at Bangkok University PhD KIM programme – Thailand;

Advisor: Associate Professor Dr. Vincent Ribiere

Phd Candidate at Telecom Business School – Paris.

Advisor: Professor Dr. Jean-Louis Ermine

Objective Summary:

The objective of this research is to <u>develop and validate a model</u> that allows for the diagnosis of a Higher Education Institution (HEI) on how it addresses employability of its graduates in terms of its development and assessment. This research views the educational offering of a HEI as a transformational process from entry student to employable graduate. Employability is argued as a key goal for HEIs in terms of their fitness for purpose and be holistically conceptualized by considering its influencing factors. The study gives attention to how this educational transformation process can contribute towards purposeful Higher Education (HE) for the 21st Century through evaluating the approaches taken towards student development. The type of model that will be developed is a maturity model, which is typically used to diagnose/evaluate the effectiveness of processes to achieve a certain level of quality. The model of this study will identify maturity levels for different activities within a HEI whereby higher levels of maturity can then be used to start working out pathways towards better performance.

General Approach to the study:

To construct and validate the model, this study is following a qualitative design by means of a multiple case study approach (3 cases) and a Delphi Technique. After extensive review of the literature to identify the main constructs of the study, 3 case studies will be used as a preliminary ground for data collection to develop, in conjunction with the existing literature, a first version of the model. The researcher will then engage in a Delphi Technique whereby field experts are consulted on the model's content in order to come to consensus around the validity of the model.

<u>Specific relevance for my inquiry to your institution</u>

The case study protocol for the first three cases would involve the evaluation of multiple data sources:

1. information around employability and the institution in the public domain,

2. the physical site

3. internal documentation relevant to the processes of addressing employability (strategic and operational in nature)

3. key informants who are knowledgeable about the approach of the HEI (past, current and intended)

Data sources 1 and 2 can be fully taken care of by the researcher needing no (or very little) support by the case institution for investigation, given the approval for physical access to the site.

Data sources 3 and 4 would call for collaboration between the institution and the researcher in order to gather the data required for the advancement of the study. For data source 3 the researcher aims at electronically scanning documentation that is relevant in order to proceed towards content analysis in later stages. This of course would be done under an agreement of full confidentiality and the sharing of the findings at the end of the analysis. Data source 4 would be addressed through Interviews with one or more key informants at selected site. These individuals can be identified in collaboration with the HEI. Preferably these interviews would be conducted in person, however phone/skype interviews can be considered should this be more appropriate. The interviews would follow a standard interviewing protocol for academic research. Desired profiles of participants would be considered on the basis of expertise and involvement in activities that concern employability at the HEI.

Priority would be given to people that hold positions that cover tasks that sit at the cross section of the academic, administration and managerial activities. Questions of the interviews will be shared in advance with participants, allowing for preparation if this would be desirable from their side.

The findings from these case studies will then be used to develop a first iteration of the model, to be presented to a panel of experts using a Delphi Technique for validation, to arrive at a second iteration of the model.

Request for exploratory conversation around possible participation in the study.

I would like to invite you for a first conversation in order to explore the inclusion of your esteemed institution in the first three case studies. I look forward to hearing from you.

Most respectful regards,

Philippe Vande Wiele

philvandewiele@gmail.com

00973 – 39865963

SAMPLE - Consent Form for Participation in Interview Research

I, the undersigned, volunteer to participate in a Phd research project conducted by Mr. Philippe Vande Wiele from Bangkok University and Telecom Business School. I understand that the project is designed to gather information about institutional practice around the development of employability in undergraduate business students. I will be one of key informants being interviewed for this research. I take duly note of the

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one on my campus will be told.

2. I understand that most interviewees in this research will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by Mr. Philippe Vande Wiele. The interview will last approximately 45 - 60 minutes. Notes will be taken during the interview. An audio tape of the interview and subsequent write-up of the dialogue will be generated. If I don't want to be audio-taped, I will not be able to participate in the study.

4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent use of records and data will be subject to standard data use policies which protect the anonymity of individuals

and institutions by default. Overriding this default position requires written consent from the relevant actors.

5. Faculty and administrators from my campus will neither be present at the interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

6. I understand that this research study has been reviewed and approved by the Phd Committee of Bangkok University and the necessary authorities of my institution.

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a signed copy of this consent form.

Date of interview   _____ / _____ / _____

Name and Signature of the Interviewee: _____

_____   _____

Name Signature of the PI: Philippe Vande Wiele

For further information, please contact:

Philippe Vande Wiele – philvandewiele@gmail.com // 00973 - 39865963

SAMPLE-Participant Information Sheet

Study Title

Higher Education and Employability: the Development of a Diagnostic Maturity Model.

I would like to invite you to take part in a doctoral research study. Before you decide whether you want to participate, it is important that you understand what this project and entails and what your possible involvement means. Please read the following document carefully and ask questions in case what you read is not clear or would like to receive more information.

What is the purpose of the study?

The purpose of this study is to complete a doctoral degree in Knowledge Management and Innovation Management. Through this study I intend to address the gap that currently exists in mechanisms to diagnose offerings in higher education on how they tackle the goal of employability for its students. The objective is to develop a diagnostic model that allows the evaluation of a Higher Education Institution and open potential pathways to improvement.

Why have I been invited?

The study relies on key informants of particular institutions that have been purposefully selected on the basis of their distinct commitment and approach towards graduate employability. You have been identified as one of the 8 - 9 key informants for your institution on the basis of your tenure, your position and your specialty knowledge of the institution.

Do I have to take part?

You are free to decide whether you take part in this study or not. Should you agree to move forward in participating in this study, then I will provide you with a consent form that will outline the general terms and conditions of the interview that I intend to involve you in. You are of course free to withdraw from this project at any time that is deemed appropriate for you without the need to provide any reason for you withdrawal.

What will happen to me if I take part?

The main part of your participation will involve a semi structured interview whereby you will be asked to elaborate on the way the institution that you work for tackles the goal of graduate employability from your point of view.

You will be presented in advance with a variety of questions that I intend to ask you. This will allow at least a two week time period to prepare and get some ideas around what you will say.

The interview will effectively last around 60 minutes and will be administered in full confidentiality. The interview will be audio recorded for the purpose of being able to review the answers later on. This recording will only be accessed to the principal researcher for this study. The content of the interview will be used to, in combination with all the other interviews that I will do in the institution, to sketch a clear picture of what the process is that your institution has in place in order to tackle the employability of its students.

After the interview is concluded and the findings are being distilled, I will contact you again to review the findings, just to make sure that you are comfortable that my writing reflects what you have told me.

Compensation

Since this is a self-funded study, I have no compensation budget available for your participation in this study. You will however be mentioned in the acknowledgement of my study should you feel this appropriate.

What will I have to do?

You will be expected to meet with the principal researcher for a one off session of approximately 60 minutes to answer a series of questions that you have been presented with beforehand.

What are the possible disadvantages and risks of taking part?

The interview that you are asked to participate in does not intend to expose you to any uncomfortable situation or require you to divulge any sensitive information. Should this however be the case, then this will be treated with the appropriate consideration of confidentiality. You are always free to not answer any questions, refuse to elaborate on a statement or have a statement removed from the record.

What are the possible benefits of taking part?

There is no promise that participating in this study will benefit you in any way, but the information we get from your involvement in this research project will potentially help the future improvement of higher education on a topic that is currently very important.

What if there is a problem?

If you experience any issue with this research, then i would like to ask you to contact the principal researcher directly. Should your issue be with the principal researcher or you feel uncomfortable addressing the issue to the principal researcher,

then you can contact the principal researcher's supervisor on

vince@vincentribiere.com.

Will my taking part in the study be kept confidential?

Your answers to the interview questions will be audio recorded and at the

same time the principal researcher will be making notes during the interview. The

interview will be held one on one, without any third party present.

The data will be recorded on a data sheet that represents the total of information

captured out of all the interviews that have been held in your institution. This will be

electronically stored, offline, for further analysis in case this is required.

Your confidentiality with be safeguarded in terms of your name and information that

you wish not to be divulged. Your department will be at least mentioned as the data

source in the information sheet. A master list of names and contact details of any

person interviewed for this study will be held under password protected document,

stored offline at all times. The password will only be known by the principal

researcher.

The data will only be used to develop the model as a result of combining data

from two other case studies. Only the principal researcher and doctoral advisor will

have access to the data. The data will only be made public after this has been

approved by the participant. The data will be retained at least until after the defence of

the study, but possibly two years longer as is common practice in doctoral research.

What will happen if I don't carry on with the study?

If you withdraw from the study we will keep all the recorded interview

material collected up to date but will follow your request in terms of

acknowledgement in the final write up of the study.

What will happen to the results of the research study?

The results of the study will be shared in the academic community under the form of a dissertation that is publically available in the library of Bangkok University and Telecom Business School. In case you wish to obtain a copy of the dissertation, then a formal request can be sent to the principal researcher and a softcopy of the dissertation will be made available once the document has been submitted and approved for publication.

The results will likely form the foundation of a series of tests of the model that is being developed out of the case studies.

Who is organising or sponsoring the research?

This study is fully self-funded by the Phd Candidate and is organized by Bangkok University Phd KIM program and Telecom Business School Sudparis Phd in Management program.

Further information and contact details:

For further information about this study you can contact the principal researcher:

Philippe Vande Wiele

philvandewiele@gmail.com

00973 – 39865963

Or his doctoral supervisors

Assoc. Prof. Dr. Vincent Ribiere   (Bangkok University)

vince@vincentribiere.com

Prof. Jean-Louis Ermine (Telecom Ecole de Management)

jean-louis.ermine@telecom-em.e

SAMPLE - Preparatory Interview Sheet

Study :

Higher Education and Employability: The development of a Diagnostic Maturity Model.

Case Study	Name of the institution
Participant Nr	x
Department	SMT - Strategy
Position	Strategic Advisor to the CEO
Date of Interview	x
Consent to audio record obtained	Yes – No
Duration of Interview	Projected for max 60 minutes
Interviewer	Philippe Vande Wiele

Note: These are indicative questions as part of a Semi-Structured interview format. The bullet points are elements that may help you to inform your response to this question.

Q1: What does employability mean to your institution and department?

- a formal definition – institutional - departmental

- a strategic goal – quality indicator –seen as part of its purpose

- its priority

- seen as a potential competitive advantage

- KPI's (Key Performance Indicators)

- Targets

Q2: How does your department address employability?

- Explicit / Implicit evaluation?

- Activities aligned with industry?

- Provided services?

- Trained staff / expertise?

- Staff Training and Development

- Structured mechanisms?

- Data collection?

Q3: How does your department interact with other departments in your institution around the topic of employability?

- Interaction with Quality Unit

- Interaction with Career Center / Alumni / Student Services

- Interaction with academic departments

- Interaction with Curriculum unit

- Interaction with Marketing

- Other entities inside…

Q4: How do you communicate your efforts around employability throughout organization?

- Communication mechanisms

Q5: How does employability form part of your discourse with external stakeholders (i.e. outside the institution)?

- Interaction with industry

- Formal showcasing

- Communication of the stats

- Quality assurance reporting

- Communities of Practice

- Conferences

Q6: How does employability influence decision making at departmental and institutional level?

- Evidence based decision making

- Exploration of innovative ideas (T&L or other) – standardize good practice

Q7: Can you elaborate on challenges that you face in addressing employability in your department / institution?

Q8: How would you see employability being better addressed in the future?

- What if no constraints / limitations?

Q9: Any other comments or statements that you wish to make around employability in your department, function or capacity?

Q10: Is there anyone you would advise me to make contact with to arrange for an interview in the institution?

APPENDIX 3 Case study HEI1

    1. Case specific data sources

        1.1. Interviews

This case is primarily built on findings from interviews with 11 key informants (Table A-3) presenting a range of views based on their involvement in the transformation process. The key informants were chosen on the basis of their position and tenure in the organization in order to present a comprehensive understanding of the transformation process the institution has in place.

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Participant nr	Position	Tenure	Key involvement relevant to this study
P1.1	Programme Manager in the Bachelor of Business programme – Marketing Major	7 years	Academic function as teaching faculty member in charge of running, reviewing and overseeing design and development of a programme, programme. Liaising with Head of School, Dean, Industry Liaison and Quality Manager for the school.
P1.2	Programme Manager Quality in the School of Business	5 years	In charge of quality assurance at school level and accreditation through quality improvement planning by liaising with the Institutional Quality Unit. Responsible for the facilitation and internal validation of programme based efforts towards set goals and targets.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.3	Manager Academic Development Department	3 years	Manages institutional academic development processes and policies, governs programme design and development structures and professional development. Liaises with Faculty, Quality Assurance and industry liasons and reports to Senior Management Team around institutional performance on academic matters.
P1.4	Manager of Quality Institutional Review	8 years	Involved in the development and administration of institutional review around quality and accreditation. Works under the Head of Quality in reporting to Senior Management. Liaises with Deans and Heads of Schools mostly yet at times engages in consultation with the faculty through programme managers.
P1.5	Deputy CEO – Director Academic Affaires	8 years	Governs Academic affairs at institutional level, is a member of the Senior Management Team. Gives direction towards programme performance and reviews, outlines institutional strategic direction and reports directly to the CEO and the Board of Trustees.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.6	Industry Liaison Manager	4 years	In charge of the connection between the institution and the industry concerning opening networks for industry placement, sponsorships and other types of collaboration. Operates largely as a supporting function towards inclusion of industry in academic matters and general relationship development with industry.
P1.7	Dean School of Business	4 years	Represents the Business School at Senior Management Level, reporting directly to the deputy CEO in terms of academic affairs. Charged with the strategic direction of the school.
P1.8	Head of School for Bachelor of Business	7 years	Reports directly to the Dean. Charged with managing the operational side of the whole Bachelor of Business programme. Also forms part of the teaching faculty in the programme.
P1.9	Manager Career Services	8 years	Charged with supporting students at institutional level by presenting opportunities for career development through linking them with industry or providing them with developmental opportunities for career competencies.

Participant nr	Position	Tenure	Key involvement relevant to this study
P1.10	Strategic Research Fellow	8 years	Charged with exploring institutional research and engaging in research projects that inform the HEI around its fit for purpose.
P1.11	Head of School Humanities	4 years	Reports directly to the Dean. Charged with managing the operational side of the Humanities support to all programmes in the institution, inclusive of the foundation programme.

Table A-1 Key Informants HEI1

1.2. Internal Documentation for which access was provided

- Strategic plan (referred to as D1.1)

- National Qualification Framework listing application (referred to as D1.2)

- Institutional Quality Assurance Self Review document and report (referred to as D1.3).

- Programme Quality Assurance Self Review document and report (referred to as D1.4).

- Programme Approval Document for the Bachelor of Business (referred to as D1.5)

- Variety of course documentations (syllabi, lesson plans, support materials and assessment documents, student sample works) (referred to as D1.6)

- Annual Program Review AY 2014-2015 (referred to as D1.7)

1.3.Information in the Public Domain

- The Institutional Website (referred to as PD 1.1)

- Newspapers and articles (referred to as PD1.2)

- Ministry of Education Website (referred to as PD1.3)

1.4.Observation during site visits

- Facilities (referred to as O1.1)

- Document Management System (referred to as O1.2)

- Learning Management System (referred to as O1.3)

- Notices (referred to as O1.4)

2. Background and concise context

HEI1 was founded in 2008 as part of the realization of Bahrain's 2030 vision which focuses primarily on a new economic posture for the Kingdom, whereby it aspires to distance itself from oil dependence and develop a more diverse, sustainable and future-relevant economy (PD1.1). The Bahrain 2030 Vision recognizes the importance of human capital in today's knowledge economy and observes an opportunity in this area to realize the transformation of its economy. It aspires to be a relevant and recognized economic entity in the regional economy that is firmly tapped into the global economic trends and developments.

Such aspiration has furthermore identified education as a fundamental cornerstone to its realization. Bahrain has over the years suffered from an output of a workforce that holds University level degrees, yet - and this follows the trend worldwide - employers have not found this workforce to be value adding and thus undesirable compared to an expat workforce (Allen Consulting Group, 2009). This mismatch of supply and demand between HE and Industry is the result of 1. an

oversupply of HE at research university level, 2. a lack of provision of HE at vocational level or geared towards specific professional certification and 3. a lack of perceived prestige non-university degrees hold (P1.4).

HEI1 was established in order to tip the balance, however its mandate was founded on the development of work-ready graduates through an approach of applied education, without a specific rhetoric that vocational training would be the answer to the local workforce supply-demand issue. Yet at the same time it was evident that the lack of a more vocationally oriented HE institution was once of the reasons why HEI1 was conceived. As will be evident from the case, this institution is a prime example of the blurring lines between the 'pure sang' academic institutions and the vocational training institutions as they are known in the western world. This hybridization, as the case will illuminate, is certainly a point of strength in terms of the learning experience the graduates experience. From the outset, the focus of the institution has always been the development of relevant local human capital for the future economic direction of the nation: an employable workforce for the 21st Century (PD 1.1). At the foundation of the institution lies a research document that identified a series of reasons why a new type of HEI would be of benefit (Allen Consulting Group, 2009). The report particularly highlighted the types of skills and competencies the industry felt the current graduates were lacking. This resulted in the development of a framework of eight 'employability skills' through some international benchmarking with HEI's in UK and Oceania. The eight employability skills were confirmed and co-defined with the local industry through various round of consultation (P1.10). This list of skills operates as a frame of reference to what the institution does and what it aims for. "It makes its goals and articulation around employability understandable "(P1.7).

Employability as a whole "strongly guides the decision making around what we do and why we do it" (P1.3, P1.8). "We have some people who are very passionate about employability and this affirms the mandate of the organization" (P1.2, P1.4, P1.7, P1.8).

The institution offers six undergraduate programmes (Business, Logistics, ICT, Engineering, Web Media and Visual Design) through an English Mode of Instruction approach (PD 1.1, D 1.2-7). "Competence in communicating in English make an individual more employable in the local and regional market" (P1.7). "Employability is arguably about the Humanities more than anything else, the competencies that are generic or transferable" and are "not necessarily first field specific in nature" (P1.11). After completing the core courses of the first two years, a graduate can exit with a diploma or pursue a bachelor's degree by completing another two years of more field specific courses at higher level under the form of majors. The institution follows the National Qualification Framework in terms of how its programmes have been built and is subject to periodic quality assurance reviews (P1.2, P1.4). Up to date, each of those reviews and evaluations have rated the institution highly with a variety of commendations in terms of its practice, in particular its focus on the development of employability in its graduates (PD1.3, D1.3, D1.4).

The institution counts approximately 300 staff members of which 120 fulfill academic duties. The student body of approximately 1800 students consists of virtually 100% Bahraini full time students. The resulting 1/15 faculty student ratio is a first important point in relation to the T&L philosophy believes is required for the fostering of employability (P1.1, P1.2, P1.4, P1.5, P1.6, P1.7, P1.8, P1.9, P1.11). Each

programme is governed within a school but is subject to institutional rules and regulations from an operational and quality perspective. The information presented below pertains the largest programme in the institution - i.e. the Bachelors of Business (BBUS) programme - with a current student count of roughly 900 i.e. half of the total institutional student body. Within the BBUS programme students complete a two year (four semesters) cycle of core courses to then advance to a specialization (major) cycle of another two years (D1.5). Currently the offered majors are Management, Marketing, Banking & Finance and Accounting. New majors in the pipeline are Events Management and Human Resource Management (P1.7, P1.8). Reports in the realm of national quality assurance evidenced the argument around such offerings to be primarily based on the current and future labour market evolutions of the national and regional economic context on the basis of a systematic process of new programme development that includes a feasibility study at the start of the process (D1.4). Comparing this argument with the end result of the process, the reported rate of graduate employment within 6 months of graduation was 90% in 2015 (P1.5, P1.7) indicating this institution seems to be tackling the chasm between human capital output by HE and expectation from industry quite effectively. "Our curriculum is being designed with the objective to be on par with international standards" (P1.5). What is interesting to note is that the offering of rather traditional programmes that are at best marginally different from other HEI's in the country, does not seem to be an issue in an economy that is argued to be different from 20 years ago. "The general content is similar to most degree programs around the world, but the (learning) process is carefully constructed" (P1.7). Employers report on the graduates of HEI1 to be different in terms of personality and attitude towards work, time management and

problem solving (P1.1, P1.6, P1.7). A variety of graduate profiles that outline what a graduate of HEI1 will be like and will be able to do upon exit articulates such dispositions very clearly through its employability skills framework (i.e. a series of 'soft skills' in complement to field specific competencies). The institution also pursues the linking of professional certifications to its degree (e.g. Institute for Leadership and Management or Digital Marketing Institute) and or at least some exemptions for future attainment of professional certifications (e.g. Association of Chartered Certified Accountants and), in order to further affirm the programme's currency with the professional world (P1.1, P1.5, P1.7. P1.8).

3. Employability Transformation Process

    3.1. Theme: Leadership

        3.1.1. Strategy

The concept of employability is truly embedded in the institution and part of its "raison d'etre" as evident from a variety of sources. The fundamental statements that embody what the institution stands for are very explicit and clear around its goal of developing employable graduates.

"We aim to produce work-ready graduates, equipped with the necessary 21st century skills before entering today's corporate world – be it local, regional, or international labour markets. This is done through designing our curricula in line with all your requirements, bearing in mind the individual needs of a student, company, or society at large. The result is a vibrant, dynamic learning environment, which welcomes the people of Bahrain to the possibility of exciting new career opportunities and to a lifetime of learning." (PD1.1, D1.1, D1.3).

This notion is translated into a strategic plan that is built on an Objectives and Key Results (OKR) system whereby on a periodic basis (six months) each level of the organization is held accountable for what they have achieved in this context (D1.1, P1.5) through quality improvement plans per academic year (P1.2). Up to now decisions are driven by institutional policies that consider industry evidence (P1.1, P1.2, P1.6, D.1.3, D1.4), good international practice (P1.1, P1.2, P1.3, D1.3, D1.4) accreditation and quality improvement demands (P1.2, P1.3, P1.4, P1.8, D.1.3, D1.4), own big picture destination data (P1.3, P1.5), enthusiasm around internally proposed ideas through trial and error(P1.1, P1.4, P1.5), strategic value of partnerships with external entities (P1.5, D1.1, D.1.3, D1.4), internal policies around feasibility and relevance (P1.3, P1.7, D.1.3, D1.4), feedback from programme and course reviews (inclusive of student and faculty reviews) (P1.2, P1.3, P1.7).

The board of Trustees sets overall objectives and in a cascading manner, each level below then decides on objectives and action plans of what will be done to realize these objectives. One of the main 5 strategic goals of the institution for the period 2015-2019 is the reputation of its graduates: "HEI1 will be recognised for the unique qualities of its graduates; enterprising individuals well prepared, through future oriented and innovative education programmes, to take their place in a world of greater opportunity and complexity." (PD1.1, D1.1). "At the moment this young institution is working on setting structures in place that can help formalize and streamline efforts towards the realization of employability"(P1.1). "The OKR system sets clear objectives to follow the strategic direction this institution deems appropriate and this has some operational targets and objectives (e.g. attendance of workshops and seminars by staff on employability, accreditations, international partnerships,

MOU's, graduate reputation and building recognition and support) that contribute to the realization of the overall goal of employable graduates" (P1.5).

Main point of difference of its output

Aside from knowledge that reflects the reality of the industry of today and the future, the enterprising nature of its graduates is one of the differentiating personal attributes that HEI1 aims to instill in its graduates and has identified as a potential competitive advantage over other institutions (P1.1-11). The idea of being enterprising must not be confused with being entrepreneurial yet it of course has its overlaps. Being enterprising is more addressing the attitudinal and actionable dimension of employability (Vande Wiele et al, 2014). The crux of the notion sits at the point of which behaviours the graduates connect with the knowledge they have acquired and how they behave as professionals in the world of work. "Employers realize that our graduates are different from other HEI's outputs" (P1.1). "We are very proud to see our graduates be confident individuals in professional capacity with a constant hunger for learning and professional development – this means we have done our job right" (P1.5). "Industry wants our graduates because they know we are producing employees that are different and add value to the organization – companies nowadays recruit and evaluate very much based on attitude – much more than in the past" (P1.6). "Career competencies have gained attention on the educational agenda in the country since late" (P1.4). "We aspire to be more than a pipeline for HR recruitment by companies … it is about creating graduates that can add value to industry and society … with our eye on the market 10 – 15 years from now" (P1.7). "Employability is a wonderful opportunity to build and at the moment differentiate our brand in the HE landscape" (P1.3, P1.8). "Information around employability is

one of the things that play in the decision making of parents and prospective students"
(P1.5).

Institutional understanding and culture

The interviewees confirmed employability to be part of the organizational
culture by infusion in many institutional activities, formal communication and
conversations around what is being done and why it is being done. It is a topic that
holds relevance for everyone in the institution and therefore is a good way to open
conversations between different departments and with external stakeholders (P1.2,
P1.3, P1.4, P1.7, P1.8). This is very evident when looking at the way the realization
of the objective of graduate reputation trickles down to many departments whereby
each department has its own contribution to it through activities ranging from the
development of a relevant curriculum (general academic development), Memoranda
of Understanding with external organizations (Industry relations), professional and
academic accreditation efforts (academic and quality), inclusion of specific
employability related action items in the Quality Improvement Plan (Quality),
showcasing of learners' and graduates' achievements (Marketing and Career &
Employment Center) and network building (Career & Employment Center, Alumni)
to name a few.

Employability as such has not been formally defined by the institution.
"Finding an institutional definition that is relevant to all and still holds enough
meaning is difficult … it might end up being merely a blurb that is too generic to hold
any true meaning" (P1.8). The institution has opted to tackle this by developing a very
clear and straightforward framework around what it believes is needed to be
employable by means of eight employability skills: problem solving, initiative and

enterprise, learning, communication, technology, planning and organizing, self-management and finally team work (D1.3-6, PD1.1). These skills were identified, confirmed and defined in collaboration with industry through third party research and institutional efforts (P1.10, D1.3). "Senior faculty members are very well aware of the employability agenda and link it back to the skills… they have a pivotal role in passing on this mechanism to new faculty and help build that culture … perhaps the induction programme could include some more emphasis on the idea of employability, but the message is definitely sent to all faculty when they join." (P1.8).

The term employability is by many interviewees equated to "field expertise" (P1.1, P1.5, P1.7), "work readiness" (P1.1, P1.5, P1.6, P1.9, P1.10, P1.11) , "professionalism" (P1.1, P1.6, P1.9), "career competencies" (P1.4, P1.9), "21st Century skills" (P1.1, P1.5, P1.9, P1.10), "balanced individual" (P1.1, P1.4, P1.5, P1.7, P1.9) and "right attitude" (P1.1, P1.4, P1.5, P1.6, P1.9, P1.10, P1.11).

The employability skill set is displayed through ideograms for each skill "around campus in virtually all the classrooms" (P1.1, P1.7, O1.1). "The notion of employability and particularly the eight skills are truly part of the fabric of this institution" (P1.7). "Whether people can recite the definitions of each of the skills by heart, I am not so sure, but the skills are known and are a priority consideration in what we do as faculty members … focusing on these 'skills' makes it easier for us to work towards and end goal… it gives us focus and allows us to carry a conversation with the learners around what they are doing, what we want them to do and why we want them to do this" (P1.1). "The (set of employability) skills is a way to embed the strategic goal into the curriculum and the whole learning environment of the institution" (P1.3, P1.8).

Communication around employability

Employability is the central tenet in most of the institution's communication with its external stakeholders (P1.1, P1.3, P1.5, P1.6, P1.7). This is also evident out of a variety of communications that are present on the institution's webpage such as stories around industry engagement, student projects, MOU's with major companies and non-governmental organizations, celebration of successes achieved by graduates and current learners (PD1.1, PD1.2). The institutional website furthermore publishes profiles of its faculty inclusive of their industry experience, showcasing the complementary know-how in addition to theoretical expertise (PD1.1).

Internally employability is a topic of informal and formal communication (P1.1, P1.2, P1.3, P1.4, P1.6, P1.8). Formal communication takes the form of inclusion of the topic in strategic documentation and reporting that is then disseminated throughout the organization and concerns in most cases bottom line destination data of graduates or directives and objectives around employability development and reporting. "Information and data around employability needs to flow through the organization in order to create good mechanisms to tackle it" (P1.5). "Strong information is required in order to get a good idea of what is currently possible, where we are at and where we want to go" (P1.7). Currently meetings and the SharePoint system are used to make this information available. The locations on the document management system where most information around employability can be found are the T&L site, Quality section of schools and Career Services site (O1.2).

The most intensive level of exchange around employability seems to be among the academic departments in the institution under the form of interactions in between faculty members of the same school and between a school and the academic

development department. "Employability is often the underlying topic of discussion between faculty members when discussion where the programmes are going, or why they are being adjusted"(P1.1,P1.8). "Monthly newsletters often include topics that link with employability, particularly in relation to achievements of students or faculty members around strengthening the programme and industry relations" (P1.1, P1.7, P1.8). Interactions across different faculties or with non-academic departments seem to be more ad hoc or on a mere reporting-when-required basis. "As a young institution, it is normal that we cannot have all our departments integrated yet around such topics – this has to grow organically at the start"(P1.7). "Career services could be more involved in the realization of the curriculum, but this is not evident" (P1.9). "Our main concern at the moment is to find a mechanism that allow us to, in a somewhat standardized way, get a handle on understanding and articulating how employability is embedded in what we do … but we know we are doing it, but we need to capture the real know-how around this."(P1.2, P1.7). "Before we make any decisions moving forward, it is important to understand what we are doing and how we are currently doing it through consultation with all stakeholders and critical analysis … then we can decide whether and how we make changes for improvement" (P1.3). "At the institutional quality level, it boils down to a philosophical question around quality where currently the institution is addressing quality more through a corporate lens than through a educator's lens … this has its advantages, but this also means that currently institutional quality is not focusing on T&L much … the creation of quality managers for each school is a good first step in that direction, since they are closer to the faculty and the core activities of what we do "(P1.4). "Quality is about improvement, not about compliance (P1.3, P1.4) but whether everyone in the

organization views the Quality unit in this way is a question mark … having multiple validation and accreditation visits and subsequent documentation requirements of course complicates things … the quality improvement plans are a good institutional step forward to see the value of quality improvement, the relevance of such a cycle and closer engagement with it" (P1.4). "The Marketing department helps us with getting stories our around success of our graduates, but there is likely more potential if this was done in a more orchestrated and strategic" (P1.1).

Communication to learners around employability typically happens through two channels: the faculty and the Career & Employment Center. At the outset of the course, each learner is made aware of the graduate profile of the major, the learning outcomes of the course and how this fits into a professional context through a systematic sharing of documentation on the LMS (O1.3). During the delivery of courses "the conversation with the learners constantly shifts back and forth between technical knowledge and its relevance to industry, professional behavior and work readiness" (P1.1). Each assessment is accompanied by a marking rubric which communicates clearly to the learners what they will be assessed on and how this assessment is being evaluated. These statements often include implicit or explicit reference to the employability skills framework in particular around communication, planning and organizing, initiative and enterprise, teamwork and problem solving (D1.6). The faculty provides rich, developmental feedback to learners around not only the technical aspects of their performance, but also their employability skills and industry contextual notions in case these are relevant (D1.6). The moderation folders on the document management system show clear evidence of high levels of feedback around a variety of aspects of learning, not just the technical knowledge of a field of

study. (O1.2). "The career and employment center uses the Learning Management System, sms, bulk emails, personal meetings and posters on campus to communicate their presence, activities and services to students" (P1.9). Social media presence is run through an institutional account that is managed by the Marketing department as in integrated part of its website. Its content holds relevance to employability at the more holistic and broader level (PD1.1).

3.1.2.   HR strategy

In terms of its faculty, the institution has made a deliberate choice to hire people with industry experience alongside academic qualifications (D1.1, D1.3, D1.4, PD2.1). "The use of a faculty that primarily consists of educators with strong industry experience either locally or internationally, gives great confidence in our learners that they are learning from people who know what they are talking about" (P1.1). "Industry experience is critical to be able to operate in an organization such as this one, because of the very nature of what we do and how we do it" (P1.6). "The industry experience combined with a high level of academic expertise" (P1.2) allows for "the development of a programme that is credible, relevant and above all meaningful for the learners" (P1.5).

Each faculty member that joins the institution undergoes an in-house training programme around the T&L philosophy the institution adopts to ensure that from the start the faculty understands and is able to deploy a T&L approach that is consistent with what the institution says it does (D1.3, D1.4). There is of course a sense of academic freedom "certain levels of freedom are necessary - particularly around course content and T&L - because the more systematic, the more standardized and the more regulated a process becomes, the more rigid and resistant to change it

results to be … we need to remain flexible where we can"(P1.5). The fundamentals however are clearly communicated and can be found in the supporting documentation, processes and systems the new faculty is exposed to throughout their training and on the job. There is furthermore an extensive calendar of Training and Development presented by the T&L unit whereby a good few training activities are linking with or are directly about Employability (D1.3, O1.2). This includes bringing in outside expertise from sources such as the Higher Education Academy (UK) and the Higher Education Council (local governmental body) (D1.3, O1.2). "The attendance to such trainings is only in certain instances compulsory, but is considered in the yearly performance evaluation appraisal" (P1.1). "In the academic year 2015-2016, as part of the OKR's around employability, a formal and compulsory discussion forum around employability was organized by means of various sessions where eventually all staff were given the opportunity to share their impressions around employability to further understand the institutions standing in terms of realizing employability, share good practice and identify how to progress towards improvement." (P1.3, O1.2). "To keep the industry experience of the faculty current, it is recognized that there needs to be attention given to up-skilling of the faculty not only in Academic Competencies, but also in terms of industry currency" (P1.7). "The professional development mechanism to engage in out-house courses or other opportunities requires quite a bit of administration and is restricted by inevitable budgetary constraints ... but certainly not impossible to engage in" (P1.1, P1.3). "Our interactions with industry and the inclusion of real life projects and industry challenges in our curriculum help us to remain aware of what the current practices are."(P1.1, P1.6). On a yearly basis the institution organizes a T&L symposium which allows the institution to share good

practice around T&L and employability is yearly a topic of discussion and reporting (O1.2).

3.2. Theme: Curriculum

The curriculum at HEI1 is designed and delivered around a collaborative educational model with a T&L philosophy of Student Centered Learning (SCL) and Problem Based Learning (PBL) that is institutionally adopted (D1.1, D1.3-6) whereby "the curriculum is based on the needs of industry (identified through consultation)" (P1.1, P1.2, P1.3, P1.8, P1.11) with an pedagogical/andragogical objective of "creating confident and independent learners" (P1.1, P1.3) "who are able to get meaningful jobs, build their careers" (P1.5) or "even become entrepreneurs" (P1.5, P1.7). "This choice is underpinned by academic and practitioners' research around developing employability in graduates" (P1.3). All interviewees stated this idea to be a fundamental choice of the institution towards the realization of its mandate through deliberately opting to embed the concept of employability as much as possible in its curriculum rather than using the bolt-on approach. When it comes to career competencies, the institution seems to be divided whether this should be embedded or whether it is more effective to treat this separately. "Career competencies should be included in the curriculum content, in order to give the concept of career a place in the context of learning and self-development"(P1.9). "Career competencies have not really been given attention in the academic programme up to now, however that does not mean they may not be already woven into what we do since we try to be meaningful and relevant for aspiring young professionals" (P1.1). The benefit in getting the Career & Employment Center more involved in the curriculum development process is not a priori downplayed, however "this would require clear

institutional guidelines and some examples of good practice to start off with" (P1.8). "Perhaps it is not a bad thing to leave learners to explore some of the dimensions of employability a bit more by themselves… the services are offered, but if they chose not to engage with them, then that is their choice and prerogative to do so" (P1.7). "Is there a danger that by trying to fit everything around employability in the curriculum the pendulum swings too far to the other side and neglects fundamental technical theory or discussions of a more humanities nature?" (P1.11). "The elective course 'Market Yourself', originally developed by the staff from the career and employment center, was found to be a very effective way of highlighting to learners early on in the programme to be mindful of career competencies and the opportunities the programme offers them to build their professional profile "(P1.4, P1.9). Formal inclusion of this as a core course has not been realized even though there was "at some point some indication this would have been the case" (P1.9).

The curriculum design and development follows a collaborative approach with industry, whereby industry is involved in different levels of invasiveness spanning from inputs towards programme relevance all the way through to course specific assessment of the learners. "The curriculum advisory committee (which includes representatives from industry) helps us to get a clear understanding of what is currently going on in the industry and provides us with feedback on how relevant our programme offerings are" (P1.1). At the level of course development, the faculty actively builds "a network of industry partners towards the development of teaching materials and assessment situations that mirror the real business environment in the local or international market" (P1.1, P1.8). "Our programme's offering of exposure to professional practice and opportunity to get some experience is quite extensive

considering how uncommon it is for industry to work together with HEI's in this part of the world … of course we can grow this better, but we are well on the way to build this network and deliberately let this grow organically rather than trying to rush it" (P1.7). "Our relationships with industry in terms of curriculum are very meaningful, they are about learning and about building human capital for the years to come" (P1.1).

The end goal is to create work ready graduates and this is evident from statements in the graduate profile for each of the majors which make very clear and often explicit reference to the employability skills framework the institution has in place (D1.5, P1.6) and were developed in consultation with industry (P1.1, P1.3, P1.5, P1.10, D1.3, P1.4). "The graduate profiles consistently capture an idea of 'knowing, being and doing'" (P1.3) and this is furthermore formally documented in the course descriptors (D1.2, D1.6), showing the practice of breaking down the graduate profile into intended learning outcomes per course. Once the learning outcomes are broken down at course level, course developers engage in the writing of assessments for these learning outcomes, after which content is identified that best fits what is needed to successfully complete the assessment and finally lesson plans are developed to facilitate SCL and PBL through appropriate learning activities and resources (D1.3, D1.6, O1.2)."We start with the end in mind and then work backwards to see how courses can use the inclusion of industry into the content, delivery or assessment of courses" (P1.6).

This process is carefully governed by a quality assurance policy of moderation and course review (P1.1, P1.2, P1.3, P1.5, P1.8) which ensures an appropriate and meaningful composite structure of courses that form the total programme. The

sequence of the courses is also carefully considered in the realization of employable graduates, whereby "courses become progressively more complex, ill structure and authentic" (P1.1). A review of course documentation revealed that both the delivery of all courses and the notions around assurance of learning consistently incorporate the attributes of reflexivity, activity based, collaborative, student centered and authentic (Vande Wiele et al, 2015). Such attributes are aligned with general principles of T&L conduciveness for employability as presented in the literature and "this has been evidenced through institutional research that was undertaken to map the courses against these criteria" (P1.1, P1.2, P1.8). P1.1 and P1.3 confirmed the notion of employability conducive T&L practice at the institution by stating the appropriation of "varied T&L practices to realize the curriculum design the institution has committed to, inclusive of work integrated learning, work placement, site visits, guest speakers, experiential learning and the general concept of applied education whereby it is all about reflective learning, evidencing ability to apply knowledge, being a team player and be able to operate in an authentic environment inclusive of its contextual uniqueness".

"In the Marketing Major (Year 3 and Year 4 in the Bachelor in Business programme) many of the courses involve existing businesses that present real life problems to the learners to which they require a solution, but this is generally the case for other majors and other programmes as well" (P1.1). This is typically tackled through assigning teams to the provided problem. The problem is being unpacked, required knowledge and skills to solve the problem are being identified, solutions are generated and evaluated, a solution is selected and then presented back to the organization at the end of the semester. The knowledge required to tackle the problem

builds on existing knowledge alongside new knowledge that is introduced as the course progresses. Each of the courses typically incorporate the need for research (secondary or primary) in order to have a justifiable and credible basis on which the solution is being built (D1.6, P1.1, P1.8). In support of the argued validity of the T&L practice towards being employability conducive, the assessments and delivery methods have been mapped against the eight employability skills (D1.4). Employability skills are often "not explicitly assessed because that would put them in isolation of the context in which they are being appropriated by the learner" (P1.5). "The nature of the T&L practice in terms of delivery and assessment allows for an implicit uptake of such skills by the learners" (P1.8). "The mapping exercise reported in the quality assurance self-review document (D1.4) gives a "clear picture on how our curriculum design and development mechanisms consider the inclusion of employability competencies" (P1.1) around "the 'being' component of how we see our transformation process to contribute to learners' employability" (P1.3).

3.2.1.1. Final semester industry project

As a graduation requirement from each major the students are required to complete a mandatory final semester industry project which is the most authentic, student centered, problem-based and work integrated learning experience the student will have undergone throughout the academic career at HEI1. "The only way we can realize true authenticity in our programme is by providing our learners with real life, on the job, working experience. Each student in the business degree programme will have completed an industry project as the ultimate graduation project" (P1.6).In the final semester teams of two or three learners from the same discipline are expected to operate as associate consultants to an assigned client and produce a solution against a

formally articulated brief. "Compiling teams from across business majors or even programmes is challenging in order to find good projects, but it is certainly something we have been thinking about" (P1.1). "Cross disciplinary exchanges allow for meaningful exchange of ideas and viewpoints and add to the authenticity of the learning experience" (P1.7). The project briefs result out of collaboration between the faculty and the client and outlines clear deliverables for the project which more often than not includes an aspect of implementation or testing of a solution in a real life environment (D1.6, P1.1, P1.8). The project has a level of structure in terms of process and deadlines, but leaves a great deal of autonomy and independence to the teams to drive their understanding of the problem and development of the solution (D1.6).

The teams of consultants start by developing a project plan according to project management principles learned in an earlier semester and work under the supervision of an academic and industry supervisor towards their output. This project plan is a formal, early assessment component of the course that addresses not only technical knowledge in the field but also the ability to effectively deconstruct a problem, plan and outline a detailed process to develop a solution that is justified, credible, impactful and relevant to the client. Throughout the project "the focus is on learning new and revisiting acquired knowledge that is appropriate to the client problem and applying this knowledge towards developing a meaningful, impactful and viable solution for the client" (P1.1). This knowledge typically spans across multiple subdomains of the Major discipline and other general business principles. In order to realize this, the project team must actively use general competencies of being an aspiring professional alongside their technical knowledge and abilities. Throughout

weekly meetings the teams present progress in the realization of the solution by means of face to face meetings with their academic supervisor and presenting evidence of a minimum of 40 hours of work performed towards this project (D1.6). These progress meetings are conducted in a manner that is in line with the associate consultant designation the learners receive at the outset of the project. The teams are expected to run the meetings and report to their senior consultant (i.e. the academic supervisor) about their project progress. During these meetings they are formally assessed on a variety of competencies such as communication, teamwork, self-management, learning and planning and organizing (D1.6). In parallel their approach to solution development and the solution itself is being discussed, evaluated and critiqued through questioning against criteria of appropriateness, effectiveness, credibility, logic, relevance, viability, meaningfulness and impact.

Around the middle of the semester, the learners are subjected to an individual viva assessment (D1.6), whereby they are expected to show their understanding of the project and awareness around what the team is doing. This includes a self-reflective component around operating as a professional framed by the institutional employability skills framework.

The final assessment of the project includes a final deliverable (typical in the form of a consulting report and/or other outputs that were created e.g. an accounting system, a digital marketing content calendar, a performance appraisal system, a manual, etc.) and a 30 minutes presentation (D1.6). The presentation is being developed on the back of feedback given by the academic supervisor upon evaluating the final deliverable typically two weeks prior to the presentation. The presentation is expected to be client oriented and is conducted following the associate consultant

designation whereby the teams pitch their solution towards the client. The client is part of the evaluation of the work by a formal inclusion in the final grading of the learners by partly scoring the presentation and by scoring the work readiness of the individuals from their perspective considering the total time span they have interacted with the team members. The latter takes form of survey in which a variety of behaviours in line with the institutions employability skills are being scored on a Likert scale and a final expression of work readiness is assigned comprising of a qualitative and quantitative evaluative statement by the client (D1.6).

3.3. Theme: Support Services

The supporting activities towards the development of employability are delivered by the Career & Employment Center, Work Integrated Learning (WIL) support and Industry Relations, the Alumni department and the Marketing department. Only the Career & Employment Center interfaces directly with students, the other activities operate as support mechanism to the institutional transformation process. The contribution of support services to the development of employability holds intuitively most potential through the career and employment center and the work integrated learning support, and this is not any different for this institution. "It is important to have a designated career support center, because career development is a complex thing that is logically best handled at the institutional level" (P1.4). "The connection with industry is important, the more exposure our students get, the better they will be prepared when they make the transition. "(P1.6). "We offer applied education … this must incorporate experiential learning … and if possible in an authentic setting" (P1.1, P1.3).

3.3.1. Career and Employment Center:

This unit consists of three people and has a stand-alone facility in the heart of the campus. They organize a variety of activities according to a yearly plan that includes events, workshops and standing services which are communicated to all internal stakeholders by means of a dedicated page on the LMS (P1.9, O1.3).

Events

'Industry talks' are events that happen throughout the year where people from industry are invited to address the total student body around topics that concern the workplace, operating as a professional and career opportunities. Yearly, the career center organizes a formal 'career forum' or 'recruitment campaign' where a variety of employers from large and medium sized firms are present on campus allowing current learners and past graduates to do job interviews with these prospective employers and where fresh graduates are given the opportunity to deliver an elevator pitch around their professional profile to a captive audience of 20 to 30 hiring companies (D1.3).

"This is a very nice opportunity for learners to get direct access to a variety of firms who are committed to hiring young Bahrainis. This is the most successful collaboration with industry we have that gives us direct result around employment" (P1.9).

The Career & Employment Center also launched an employer survey forum where it aims to survey existing employers of graduates around how they are performing as employees (P1.3, P1.9). "We aim to evaluate how the graduates are perceived in terms of their employability skills by their current employers through the eyes of the direct supervisors" (P1.9).

Workshops and standing services for the student body

The dedicated page on the LMS provides a variety of information around career and employability which targets students but is accessible to all internal stakeholders (O1.3). This includes the institutional set of employability skills, the semester calendar of weekly held workshops, a dedicated section for upcoming activities, a download section with support materials around job search (employment and salary trends in the GCC, CV template, cover letter template and interview tips), an archive section covering materials from past years, imagery of the centre's 1 on 1 and group services and a section with workshop materials.

The workshops are largely in line with the employability skills set of the institution and cover: communication, problem solving, teamwork, personality, decision making, time management and marketing the self. There are also workshops that tackle career competencies in particular such as interview techniques, cv writing, how employers hire and career planning. "At the moment we are the only section in this institution – to our knowledge – that addresses career competencies. True involvement of the center in curriculum would be good to make this part of the formal learning process" (P1.9). "We are currently falling short in addressing career competencies in our programme … it is implicitly there to an extent … the career center is there to address this" (P1.1).

Standing services to students cover dissemination of job vacancies or internships (non-curricular related), individual or group career counseling services and a 'career voyage test' to explore suitable career aspirations (P1.9). Communication around job vacancies and internships does not only target current

learners, but also graduates. "Through our own database of graduates we are able to support graduates who are job seekers or consider career moves" (P1.9).

Interaction with internal and external stakeholders

The Career & Employment Center holds a significant role in embodying the core purpose of the institution to external stakeholder, specifically potential learners and employers. In this capacity "we are a support service to the institution as well as for learners" (P1.9). The interaction with the other departments in the institution is rather limited, but the work the department does is considered as purposeful by all interviewees. In terms of information flow, the center seems to operate at a level of reporting on its activities when asked to. "The input of the career center to our programme is limited to an orientation session for professional behavior at the start of the final semester industry project … this is a good session for learners to shift their self-image from student to young professional." (P1.1). "The career center is a very useful connection to industry to identify guest speakers to address our learners either in or outside of the classroom… this is valuable … it adds to the authenticity of our programme" (P1.8). "The career center offers valuable services to our learners and gives the institution insights around what type of skills and competencies are needed by industry so that we can inform our institutional curriculum development approach to be clearly aligned with what industry is looking for" (P1.3). "The involvement of the career center in orientation sessions at the start of the programme is valuable to set the tone of what we are about in this institution. From the beginning the context is set and the end goal is clearly presented to new joining learners"(P1.7). The institution is making efforts to integrate the Career & Employment Center closer into the academic side of the transformation process through aligning it with the academic development

department. "The academic development department is working with the Career Center to develop a more structured exchange of information to improve our academic offerings to our learners" (P1.5).

The Career & Employment Center finally also supports recruitment of future learners for the institution in two ways: school visits and community programmes in schools (P1.9). The school visits happen in collaboration with the Marketing department in order to showcase and promote the institution as a desirable option for further study to school leavers. "We very much promote the idea of career and personal development as the core of our institution… it is our competitive advantage" (P1.9). In terms of community service, the career center has been engaging in sharing good practice around career counseling in different schools in order to raise awareness around the importance of appropriate career counseling through guidance for future study or work opportunities as the moment of completing secondary school education. "This helps not only the schools and the community to understand the importance of career, what that means and how that works, but it also gets learners to think about career and that association may connect them more easily to our institution, because we are all about employability" (P1.9).

3.3.2. Alumni

The alumni unit has only been recently established in the institution and does not seem to have much operation yet even though the importance of continuous support for graduate is recognized by all interviewees with a specific notion around "the requirement of reasonable software support in order to fulfill this function effectively" (P1.2). The institution is close to launching an alumni survey that aims to track the graduates and their career path as much as possible (P1.2, P1.3).

This can be used as a feedback mechanism to evaluate the programme, but at the same time to build a network for the institution to enhance its relation with industry.

From the interviews and document analysis through the document management system, there was very little to no evidence of an active alumni unit. The office exists, yet no-one responded to a call for interview.

3.3.3. Work Integrated Learning (WIL) and industry relations

The Business School has a WIL Specialist who takes care of industry relations in terms of its interface with curriculum. This administrative position is a key component in facilitating the collaboration between industry and the faculty in order to enhance the authenticity of the transformation process. "The WIL specialist is charged with the finding of companies for final semester industry projects in particular… this individual is an important bridge with industry for our faculty " (P1.8) "It might be a good idea to perhaps have an employability specialist for each programme too" (P1.7, P1.8).

The WIL role fits as part of a larger office of industry relations that was only recently formed and looks after the institutional relationships with industry and is charged with "the identification of MOU opportunities, help in identifying useful data points to further align programmes with industry, identify general skill gaps in industry, find sustainable ways to get funding for programmes through industry partnerships, etc. Industry liaisons hold the best position, due to their networks, to be able to bring back the real information around what industry is looking for and needs" (P1.6).

3.3.4. Marketing and Communications (MARCOM) Department

The MARCOM department governs communication about and around the organization and uses employability as a fundamental hook to produce content (PD1.2). The online presence and offline promotional materials make reference to the fundamental idea of employability that the institution espouses in the form of success stories from graduates, current students, faculty or institutional collaborations in the realm of employability and the general idea of shaping the workforce of the 21st Century. "Marketing helps us to get our success stories in the local media" (P1.1, P1.2) and "celebrate the transformation of our graduates to employers" (P1.9). "Marketing is the best avenue to get consistent communication around what we do out there"(P1.3) "This helps to build credibility round the institution not only to our primary stakeholders" (P1.8)," but also to the wider community, which is very important considering the size and connectedness of the society we are part of" (P1.6).

3.4. Theme: Employer Engagement

In order to realize its goal of developing employable graduates the institution has, from its inception, chosen to prioritize the relationship with industry. "We see employers and industry as our partners rather than just the demand side for our product, our graduates" (P1.5). These partnership links with industry are developed around three main objectives: 1. understanding the market to create relevant programmes, 2. delivery of the programme in ways that provide authentic learning experiences for the learners, and 3. endorsing the programmes. "Employers are key towards input, process, evaluation of output and endorsement of our efforts" (P1.5). "The engagement of industry in our process is very dynamic and interactive…

industry is used in consultation for programme design, provision of authentic learning environments, delivery of our programs and evaluation of our courses" (P1.3). "The opportunity of working with industry is particularly strong in order to validate our programmes from a quality assurance perspective" (P1.2). "Strong industry engagement is part of academic accreditation requirements" (P1.7) but at the same time also opens up the avenue to align programmes with professional certification (P1.6, P1.8). As is evident from the information presented above, the notion of employer engagement is interwoven in many of the activities the institution undertakes to carry out its mandate.

In any interaction with industry, the purpose of employability is clearly the central tenet of the conversation. "In reality we are constantly pitching our programmes and institution towards industry as the right fit and the first choice provider of the new workforce for this country … we have become quite confident in being selective and pushing for commitments towards employment when we are discussion industry projects"(P1.1).

3.4.1. Understanding the market

The institution has engaged in a variety of consultations with industry through studies that were done by external entities but also through internally driven research (D1.3). "Consultation with industry is a formal part new programme development (P1.4)". In order to develop a graduate profile that is relevant and meaningful. "It is important to understand what is currently happening in industry, where the gaps are and what type of knowledge workers are needed" (P1.1). "Industry is the ultimate data source to identify the skills and attributes that are valued by employers" (P1.6, P1.9).

Each school has a Curriculum Advisory Committee (CAC) where standing industry members periodically meet with programme managers and representatives from the Industry Relations unit to discuss and evaluate the relevance of existing programs, needs for change and the development of new programmes (D1.1). The CAC functions as an ear to the ground when it comes to understanding the wider context in which the graduates are or will be operating as well as domain specific developments that are currently happening in the market. "This involves discussions around courses offered, content within the courses and assessment methods" (P1.1). The selection of these committee members is significant, because industry people do not always understand the complexities of a learning environment, curriculum design and educating people (P1.6). This type of committees are nevertheless a strong argument for quality assurance that the programme is in touch with the reality of the local market (P1.2) and give the institution assurance that what it is doing is going to be meaningful for the learners. "Exposure to industry and their involvement in what we do gives our faculty strong confidence that what we are doing is relevant and on target "(P1.1).

3.4.2. Delivery of the programme

A first and direct link with industry in terms of the delivery of the programme is the fact that the faculty has been recruited on the basis of their industry experience (P1.1,P1.5, P1.7, P1.8). Throughout the programme, the courses become increasingly more authentic through the more intimate inclusion of employers in the course work by means of industry visits, speakers in class, companies operating as clients for a course, work placements, or the final year industry project whereby students work very closely with a designated client on a consulting project to address

a real life problem (D1.6). "Industry partners in the delivery of our programmes are clearly briefed around what we do because they need to be familiar with the language and viewpoint of the institution in terms of employability" (P1.6). "From the Major years onwards employers are intimately involved in the delivery and assessment of the courses we offer in the marketing major… since short we even have companies that present us with projects that span across multiple courses e.g. marketing research and marketing planning. This helps the students to understand the intricacy of the discipline of marketing in a real life context" (P1.1). The networks are built by means of the industry relations unit or personal connections of the faculty. Once the connection is made, the faculty typically takes over to give the curricular context in the field of study. "We work closely together with the WIL specialist and industry liaisons to extend our network, but at the same time we also use our personal contacts since a lot of our faculty have local industry experience" (P1.1). "Developing the core of the projects resides fully within the faculty who drive the collaboration with the industry partners" (P1.8).

3.4.3. Endorsing the programmes

The proverbial 'Litmus test' around whether the institution is fit for purpose inevitably involves "the uptake of the graduates in the (public or private) labour market be it as employees or as self-employed" (P1.5, P1.7). "Destination data collected through third party research are hard to come by or very low in granularity" (P1.5). Industry engagement is considered important as a quality indicator of the programme (P1.2) whereby through feedback on the performance of the graduates, the institution closes the loop around whether its programme is sound (P1.3). One objective of the relations with industry is that they will see the return on investment of

their time and effort with our students in terms of a recruiting mechanism (P1.1, P1.6, P1.7). The close interaction with industry in the final semester industry project is a strategy that holds a lot of potential towards employment upon graduation. "A variety of industry projects have eventually lead to employment offers to and actual employment of our graduates … after graduating six cohorts of students we start now to see familiar faces around the table when we sit down with companies to discuss industry projects … this makes it easier for us to convince the clients, since they have been through the programme and understand its value" (P1.1).

3.5. Theme: Quality and Measurement

The institution has a Quality department that governs institutional quality and a quality manager per programme (D1.3). Quality governance translates itself in eight general policies to address the corporate side of things and twelve general academic policies (PD 1.1, D1.3). The corporate policies that link directly with a holistic approach to employability development are those with regards to Marketing and Communication on the one hand and Review, Evaluation and Improvement on the other hand. That being said, employability is not directly addressed in these policies, but they can be argued to set a conducive frame to the realization of employability. The academic policies that concern employability are Programme Approval, Naming and Awarding Qualifications, Attendance Policy, Students Rights and Responsibilities, Student Admission, Credit Recognition, Enrollment and Academic Progression, Collaborative Educational Arrangements and finally Student Support. Even though the academic policies outway the corporate policies in direct connection with employability, the institutional quality department approaches quality from a

more corporate perspective, which does not put T&L per se central to its evaluation of quality of the institution's performance and consequent improvement (P1.4).

With respect to employability, which in essence can be considered a critical indicator of assurance of learning, the organization still feels challenged to be able to evidence the development of employability (P1.2, P1.4, P1.5). "At the moment we are mostly using destination data to argue the overall quality of our programme in respect to employability… data is about objectivity and accuracy, and at this moment we rely mostly on governmental data around our graduate destination … we are developing some internal mechanisms to capture our own data, but logically third party data is more trusted by external stakeholders" (P1.5). "We have an institutional and programme quality review cycle in place, but the inclusion of employability in that is at the moment rather implicit and consequential instead of explicit." (P1.2, P1.4). "The programme manager for quality helps to get a deeper level of understanding around what we do as a school … the focus is very much on process with an expectation of quality outcome … employability is slowly getting a place in that though" (P1.1). "The new annual programme review process has included a question around employability, which will help us to give it a more central place in the evaluation of the programmes and their effectiveness to deliver on our promise" (P1.4). "We are working on a process to clearly identify and measure the impact of our T&L practices on employability, but this is still in developmental phase "(P1.2, P1.3) "at the moment we are stuck at mapping of course documentation against the employability skills "(P1.1, P1.8).

3.5.1. Measurement Systems

There are a variety of instances in the institution's operations that allow for the capturing and use of data to measure quality of the employability development process and consequently govern for it (Table A-4), but this is, even though often times directly addressing employability, more often than not happening outside of a deliberately orchestrated and systematic approach that includes analysis and actions for improvement. "When it comes to employability, there is a clear need for a more systematic approach towards understanding what we are doing and how we are doing it" (P1.2, P1.3, P1.7).

Instance	Level standardization	Level of practice	Frequency
OKR system	Institutional	Throughout institution	Bi-yearly
Formal review cycles	Institutional	Institutional and programme	Semester (courses) and annual (programme)
Tracking of academic performance	Institutional	Course and programme level	Semester
Student satisfaction survey	Institutional	Course level	semester
Staff and Faculty needs analysis as part of the PEP	Institutional	Institutional	yearly
Approval processes around programmes and courses	Institutional	Programme	ongoing
Tracking and managing course documentation	Institutional	Programme	Ongoing

Instance	Level standardization	Level of practice	Frequency
Input from curriculum advisory committees	Institutional	Programme	Yearly
Periodic external validation panels (accreditation, external validation panels, professional accreditation alignment)	Institutional	Institutional and programme	When required
Measuring effectiveness of support services – attendance of events and outcomes	Institutional	Department	Semester
Scholarly Research by enthusiasts at programme level	Institutional	Major / Individual	Ongoing
Mapping of course documentation against ES framework	Programme	Programme	Ad Hoc
Reflective statements by students around programme and employability	Programme	Programme / Major	Ad hoc

Instance	Level standardization	Level of practice	Frequency
Data from supervisors in industry project (formal assessment of students – more quantitative than qualitative)	Programme	Programme / Major	Semester
Audits for specific topics	none	Institutional and programme	project basis
Benchmarking practices	none	Institutional and programme	unknown
Destination data of graduates and tracking professional performance	In progress – to be institutional	Undecided – Currently institutional and per programme by choice of the PM	Currently ad hoc but working towards systematic approach for institution
Employer satisfaction survey	In progress – to be institutional	In progress	In progress

Table A-2 HEI1 Employability Measurement Systems

3.5.2. Data

Currently captured data around how the organization addresses

employability is fair and includes interesting sources, however a coherent and

integrated approach to collection, analysis and use is absent and the level of

granularity is overall rather low, which leads to inconsistent or non-use of data in

decision making.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
some general destination data on graduates (employment)	Quant	Unclear	Low	Unclear	Considered to be too limited and needs higher granularity (P1.2 -8)
mapping of employability skills in the course documentation (assessment, delivery and LO's)	Quant &Qual	Attempt in progress	Inconsistent	Inconsistent	Mapping needs to be consistently in depth in order to make clear decisions (P1.1, P1.2, P1.8)
Employability skills evaluation of to be graduates	Quant and Qual	Yes	Rather high	Inconsistent	The data needs to be consistently analysed (P1.1)
Academic performance of learners	Quant	Yes	Course level	Yes	Academic performance is only a partial indicator of employability (P1.7). The final semester project is the real test (P1.1, P1.6, P1.7).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Learner point of view (2 questions in a 15 item course review question survey)	Quant	Yes	Low	Unknown	The view of the learners and graduates around how our transformation process impacts their employability needs to be captured better (P1.1-8).
informal statements around the performance of graduates (anecdotal)	Qual	No	Unclear	No	The view of learners around how their learning affects or has affected their employability is very important (P1.4).
staff profiles	Qual	Yes	Low	Yes	The industry and academic experience and expertise is critical to deploy people in the right manner (P1.1, P1.5, P1.7, P1.8)

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
QAAET evaluation	Quant and Qual	Yes	Medium	Yes	It is a strong endorsement of our programme (P1.2, P1.4, P1.5)
external validation reports	Quant and Qual	No	Medium	Yes	Feedback from external validation is being reviewed, analysed and incorporated in the QIP where felt appropriate (P1.2, P1.7, P1.8)
professional accreditations	Qual	Unclear	n/a	Inconsistent	Professional accreditation is another valuable endorsement of our programmes (P1.1, P1.2, P1.5-8).
provision of authentic learning experiences to learners	Quant and Qual	Yes	High	Yes	The more authentic the learning experience, the better its impact on employability (P1.1, P1.3, P1.6-8).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
endorsement by industry	Qual	No	No	No	We need to leverage the testimonials of industry more through PR and Communication around our programme (P1.1, P1.8). For our final year industry projects, we are very considerate towards working with companies where we feel confident around potential for employment (P1.1).

Table A-3 HEI1 Employability Measurement Data

3.5.3. Communicating Quality

Even though the institution strongly believes that its transformation process is conducive to employability, it recognizes that this belief may quite quickly be interpreted as an assumption in a context of quality review and assurance. "We need to develop a better understanding of the know-how around our transformation

process through more in depth analysis"(P1.3, P1.5, P1.7)."It is about being able to equate the reality to our promise … if our (Learning) outcomes are aligned with industry, and these outcomes are met, then employability in terms of our skills is consequential … so it is a question of embedding employability effectively in the curriculum, rather than focusing on how to measure skills" (P1.5). "At the moment we carry the implicit assumption that there is uptake of employability skills because our process (development and assessment) is mapped" (P1.1, P1.4, P1.8) … "we lack detail and consistency in our current approach around attempting to evidence how the process realizes employability"(P1.1, P1.3, P1.6, P1.8). "A set of formally agreed metrics of both qualitative and quantitative nature " (P1.2-5, P1.8) and "an appropriate level of granularity is required in order to measure the process correctly and sustainably "(P1.2, P1.5) … "this includes triangulation of learner, employer and institutional data to make a sound and trustworthy case" (P1.1-P1.4), "a clearer and more meaningful understanding of labour market data inclusive of the economic impact our graduates make, their productivity … "(P1.3-5) "but also an understanding of the market for the future" (P1.8). "Employment is not enough, our product needs to end up in jobs of high quality standards" (P1.5). "A formal system in place can be expected to trigger more meaningful conversations around the topic" (P1.2) but "this requires field (e.g. employability in HE) specific expertise in the matter" (P1.1, P1.4, P1.7, P1.8)."The next step after knowing what is to be done, is to figure out how it can be done … " (P1.3) because "quality checks and reviews should be about improvement, not compliance" (P1.2,P1.4, P1.7-9).

The communication mechanisms around quality exist through internal reporting of data following reporting processes in line with review policies and

processes. The challenge seemingly lies not only in collecting the data and reporting it, but even more so "in meaningful interpretation of it so that it then can be disseminated back into the institution in an effective manner"(P1.3). Such a situation risks the danger that more is being reported than is actually received back into actionable directives. "We send a lot of information up the chain, but get little back …. Our systems are not consistent and structured enough to report on employability" (P1.1, P1.3). The organizations has a variety of boards and committees that meet on regular basis where information exchange is possible, but the exchange of information seems to lack effectiveness. Quality assurance reporting seems to be a strong impetus for data and information to start flowing around the organization. "When matters arrive at the QAA agenda, they get priority and will be done" (P1.2).

Communication around quality with external stakeholders such as quality assurance agencies and industry is also challenging. "Communication around quality and employability is partly image building and partly evidencing the finer detail of what we do" (P1.3) but seems to be little around getting guidance around how to do better once a certain level of sophistication is met.

Communicating quality for accreditation purposes concerns different audiences that may have a different frame of reference around educational quality and employability. "The institution has opted to pursue two types of accreditation: academic and professional" (P1.8). The first external port of call in terms of accreditation is the national level quality assurance agency and since recent the national qualification framework. The requirements around employability are rather limited as compared to requirements for institutional quality structures and more traditional notions around assurance of learning. Since developing employability is a

central point of difference (and from the institutions perspective an indicator of quality) yet this is not always that easy to evidence in terms of more traditional academic concepts, the communication requires a lot of elaboration and convincing argumentation. "What we do is very progressive for this educational system, and is not very well understood … we are probably also not very good at explaining it yet … it does not mean that when it is clear to us, that is clear to everyone" (P1.2). The requirements of accreditation drive institutions to formalize, systematize and make its operations procedural. Given the contextual nature of employability for each professional domain, finding a balance between generic enough approaches that leave room for contextualization and clear structures that allow outsiders to see consistency to the right level of detail is challenging. The central position of employability in the institution makes it a topic that constantly needs to be included in reporting around quality assurance elements which in more traditional institutions may be merely academic in nature.

A second audience in the accreditation domain is the professional accreditation agencies, which have their own requirements, which do not always clearly align with institutional philosophy (Problem based Learning and Problem based Assessment vs standardized content based tests e.g. Accounting certification) (P1.8). This adds and added layer of complexity around staying true to an institutional course and yet falling in line with such requirements. It needs however no elaboration that a programme which can attach professional certification to its award (et ceteris paribus) is a step ahead in producing employable graduates than one that does not.

A third form of external validation of the programme is an exercise of good practice whereby external validation panels are being invited in order to evaluate both

institutional and programme specific practices. In the same vein, the understanding of such panels around how this institution is operating is key towards having an objective and meaningful review. "External validation panels are a good exercise towards national and international accreditation reviews, however, it does not mean because an external panel commends our work that similar judgment will be passed by others … and the opposite is also true, because an external panel recommends something, does not mean we have to follow this recommendation blindly, our way of doing things does not come out of thin air" (P1.2).

Communication with industry around the quality of the institution happens on the one hand through its consultation sessions in the Curriculum Advisory committees, and on the other hand through interactions of the institution with external industry in search of partnerships of various sorts. "Industry does not always understand the finer detail of how we approach employability, and looks more at their own contextual requirements as companies and their market" (P1.6). "When we talk to industry, we constantly pitch our programmes and its quality; we constantly use our employability focus as a way of making what we do relevant for the businesses who are looking for recruits" (P1.1, P1.8, P1.9). Curriculum advisory committees seem to be an effective bridge to communicate with industry, but its members have a stronger understanding of what the institution does, compared to outside employers. It can be expected that the members of the committee would endorse the programmes and institution in their professional and personal networks consequently, but there is no evidence around that. "Industry endorsement is one of the strongest arguments around quality that an institution like ours can wish for, because they represent the demand side for our product" (P1.5, P1.6).

APPENDIX 4 Case study HEI2

1. Case specific data sources

This case, presenting the transformation process HEI2 has in place, is primarily built on findings from interviews with 5 key informants and has been further corroborated with information from institutional documentation, information in the public domain and personal observation. The focus on the first data source is due to constraints in terms of data access as a result of limited time on site to build relationships. Furthermore, most of the explicit information is either guarded by rather stringent confidentiality considerations or is only available in the Thai. Translation of its content was not deemed to be fundamentally required to ascertain the type of information the case requires considering its purpose since the interviews revealed a rich picture of the institutional approach.

1.1. Interviews

This data source concerns interviews with 5 key informants. The key informants were chosen on the basis of their position, tenure and nature of involvement in the organization (Table A-3). The respondents hold positions at director or executive level in order to capture notions of both strategic and operational nature.

Participantnr	Position	Years Tenure	Key involvement relevant to this study
P2.1	Assistant to Vice President for Academic Affairs	15	Managing the general academic direction of the institution and liaising with a variety of other departments such as careers office, student welfare and international office.
P2.2	Director, Educational Service&Student Welfare office	21	Responsible for the connection between institution and industry. Support graduates and to be graduates to find jobs. Facilitating the development of career competencies through workshops, events and personal interactions with students. Supporting the Work Placement office and liaising with the Academic Affairs office towards the employability indicators for Quality Assurance and institutional strategic accomplishments.
P2.3	Head, Counseling & Job Placement Department	26	Liaising with career counseling office and academic affairs to place students in authentic learning environments and the inclusion of industry in the transformation process of the institution. Key player in the development of the collaborative education track.

Participantnr	Position	Years Tenure	Key involvement relevant to this study
P2.4	Associate Dean for Student Affairs, HEI2	12	Organizing student life on campus through extracurricular activities in line with the organizational goals and values. Liaising with the Academic Affairs office for information exchange around extracurricular activities and credit earning. Issuing activity certificate to validate extensive participation in student activities.
P2.5	Director, International Affairs office	18	The international office deals with international context of HEI2 which is considered as a fundamental component of its identity and mission towards creating well rounded graduates with international acumen for a globalized world.

Table A-4 Key Informants HEI2

1.2. Internal Documentation for which access was provided

- a Quality assurance report (referred to as D2.1).

1.3. Information in the Public Domain

- the institutional Website (referred to as PD 2.1).

1.4. Observation during site visits

The researcher visited the campus during his short visit in the time frame in which the interviews were conducted. Notices (referred to as O2.1) were observed around campus of which the content concerned employability related notions.

2. Background and concise context

HEI2 is the international wing of its mother university in Thailand and subsequently aligns with the general position of its overarching institution. Founded in the early 60's, this institution was one of the first private universities to open in Thailand. Its starting motto, that carries through to its current operations is "Knowledge with Virtue" whereby it assumes a holistic perspective around what education and higher education is all about. "We are trying to develop balanced individuals … it is not just about knowing things but also about how you deal with that knowledge, and how you act on it" (P2.5). "Employers do not look at GPA only anymore, they care about attitude and being an engaged and committed individual" (P2.4). With currently over 100.000 graduates and a current student body of around 27.000 students, it offers academic degrees ranging from Bachelors through Masters to PhD in various fields of specialisation.

To be purposeful for this study and keep a clear focus, this case considers HEI2's offering of undergraduate programmes. HEI2 offers a variety of 4 year study programmes that span across a variety of disciplines: Graphic Design and Multimedia, Entrepreneurship, Marketing, International Tourism Management, Hotel and Restaurant Management, Business English and Communication Arts. As of February 2016 the total student body count exceeds 1,800 students.

HEI2 prides itself around its considerable history in Higher Education (HE) in Thailand and for the alignment with the professional and societal needs in Thailand and the world (PD2.1).

"The first thing we did when the university was founded in the early 60's was to progressively establish international standards in our curriculum and an administrative system based on the professional demands in Thai society and the world. … Our aim is to produce graduates who are leaders in their fields and able to apply problem solving solutions in the real world. Moreover, they also need to be skilled in international communication to compete in the global challenges that affect all of us." (PD2.1)

The institution puts employability quite central to its raison d'etre in reference to the graduates it aims to produce and the type of meaningful future it aspires for them. Each of the programme descriptions concisely outlines the type of careers that potentially connect with this (PD 2.1). "Employability is the evidence of whether we as an institution, do our job well or not" (P2.4)

The institution further reiterates a significant focus on communication and internationalization and places the learner central to their academic journey.

- The institution recognizes the need for internationalization in a globalized society, economy and world. "English is an enormous advantage in terms of employability in Thailand"(P2.1, P2.5) and it was further noted to be a strong influencer of securing good salaries at starting level (P2.1). Online content around the institution addresses English proficiency quite explicitly in relation to its value in today's world by statements such as "Why go abroad when you can improve your English at HEI2 International", "(HEI2 offers) an international program to prepare

students for success in this highly demanding and competitive world**"** and **"(**the students**)** will also increase their knowledge and skills in the usage of English**.** Our distinguished professors include Thai and foreign nationalities**"** **(**PD2**.**1**).**

- Real world experience in an international context is also placed central to the identity of HEI2 whereby 'international friendships' are introduced as a way to allow both faculty and students to enjoy international exposure inclusive of the presence of international students in HEI2's programmes (PD2.1). "Internationalization is a core identity for HEI2 … we have around 900 international people on campus … the inclusion of international students is hoped to inspire local students to get curious about international careers" (P2.5).The content on the website also promotes the idea of a multicultural and international student body in the representation of the institution through imagery and statements. "(HEI2's) creative and vibrant atmosphere is catalyzed by students from diverse backgrounds,nationalities and nurtured by talented and resourceful faculty members" (PD1.2). HEI2 holds a variety of affiliations with universities abroad for student exchange programmes covering Central and Northern Europe, USA, Oceania and the Far East (PD1.2).

- Its T&L approach is one that strives to become student centered by moving away from a traditional approach of rote learning in order to develop well balanced, confident and self-aware graduates when they move in the professional arena. "… the students are stimulated to think creatively not only about the subject matter but also about his or her own needs in the educational process. Bangkok University strives to make students the centre of their own education so they become confident adults who are eager to enter the various professions in their fields and are

able to implement new innovations that address the complexity of today's society."
(PD 2.1).

3. Employability transformation process

3.1. Theme: Leadership

3.1.1. Strategy

Even though there is no formal explicit institutional definition for the concept of employability, HEI2 clearly outlines three identities it believes to be fundamental for its graduates to be employable in the 21st Century: creativity, entrepreneurship and internationalization. "These three elements are what we could say is our institutional DNA, what we are about and what we aspire to realize in our graduates" (P2.5). "This DNA is part of the culture of the organization"(P2.4). The fact that the mother university - and by association HEI2 - brands itself as the 'creative' (PD2.1) evidences this to be a strategic choice towards differentiating itself in the HE landscape. "Image building is very important to get credibility with our stakeholders … " (P2.1, P2.2, P2.4, P2.5). "Creativity and entrepreneurship are two factors that strategically differentiate us from our competitors and build a good image … around 20 – 30 % of our graduates are self-employed"(P2.1). For HEI2, internationalization is considered a third key point, whereby internationalization through associations with various international HE institutions presents an additional differentiating factor in comparison to other HEI's (P2.5). "Strong exposure to international environments is what we aspire to, in order to let our students become internationally aware … We have furthermore recently launched a bilingual programme and have a Chinese programme in the pipeline … this is to be responsive to our target market and carve out a competitive profile in the market" (P2.5).

The term employability is primarily considered around the goal of getting graduates into jobs after their graduation. "Employability is not defined beyond the understanding that we want our graduates to find employment or be self-employed after graduation with a good salary and a good job" (P2.1). That being said, when considering the responses around the outcomes of the programmes, it is clear that employability is viewed in a rather holistic manner including meta-competencies as will be discussed in the this case's section that addresses curriculum. Employability is considered as part of the mission through the realization of the three identities (P2.2, P2.3, P2.4, P2.5). "The goal of employment within one year of graduation is an expectation that is set at the national level but HEI2 sees this goal as more than merely an index to comply with, it is our mission" (P2.2). "Developing employability takes time … we have a structured approach to this which includes a variety of operational and academic activities" (P2.5). As will be elaborated on in the following sections of this case this structured approach is evident through the provision of a variety of programmes and selected courses that are argued relevant for the 21st Century, the opportunity for learners to engage in an educational track that offers opportunities for real life work experience, a student centered T&L aspiration and a variety of support activities around career development. The institution is very adamant about its own identity and about the fact that they are different from other institutions, and places the embedding of the realization of creativity, entrepreneurship and internationalization as a priority in everything they do. "We are working very hard on crafting our own unique way in how we do things" (P2.1). "There is a 5 year strategic plan that aims to realize these three identities in our graduates" (P2.5). Furthermore, a close relationship with industry - and where

possible its inclusion in the transformation process in terms of design and realization -
is considered a fundamental point towards the development of graduate
employability. "We have institutional practice of bringing in outsiders to complement
the academic side of things through support services and in the formal academic
curriculum through guest speakers … there is budget assigned to this" (P2.1). "Our
values need to be closely aligned with what young Thai graduates need to be
successful and this can only be understood be being aware of our surroundings and
the industries we aim our programmes at" (P2.5). "Interaction with industry helps us
better understand what we should be doing" (P2.2)."This includes active exposure to -
and experience with - the world of work through an educational track that is called
collaborative education, where students can engage very closely with industry as part
of the formal academic journey" (P2.4). Other than tapping into industry to build a
stronger institutional approach, collaboration with other HEI's and relevant
associations is also part of the strategy to enhance the transformation process towards
employability. "We exchange know-how with other universities around how student
activities can be organized … we have started to explore collaboration with
international organizations to improve the international exposure for our students"
(P2.4). HEI2 has a Center for Cooperative Education and Professional Development
that shows association with the Thai Association for Cooperative Education and with
the World Association for Cooperative Education (PD 2.1). "International
partnerships help us to realize the internationalization and allow us to showcase
credibility through endorsement of external partners" (P2.5).

3.1.2. Institutional culture

The institution has adopted the three identities approach since over a decade as an extension of the long standing motto of 'Knowledge with Virtue'. As with any form of cultural change, this transition takes some time and is subject to institutional inertia. "There is a clear understanding of the DNA by most of the institutional members … but building a culture around this DNA and employability takes time" (P2.5). The institution has taken decisive actions towards the realization of this cultural adaptation by means of providing training and development for its academic and administrative staff. "The institution runs a lot of in-house seminars for both academic and administrative staff to address the inertia" (P2.5). "Training for our staff is organized by the university on a yearly basis in order to improve our ability to support the students" (P2.2, P2.3). Aside from that the institution has an orientation programme in place for new joiners, which helps them to get socialized with the organizational culture and outlines the particularities of how the institution tackles its mission (P2.1). Each of the new joiners is expected to have a good command of English, which supports the realization of the identity factor of internationalization (P2.1, P2.5). The organizational culture is one of continuous improvement through self-review by faculty around the delivery of their courses, student review around their learning experiences and institutional reviews around support services beyond academic activities (P2.1, P2.2, P2.3, P2.4, P2.5) which will be elaborated on in the below discussion around measurement of quality. The majority of activities and perspectives around employability however seem to be addressed within the departments with limited exchange between the departments around how employability can be further enhanced. "Across departments there is not much

interaction around employability development other than exchange of information and supporting the promotion of support activities" (P2.1). The institution also houses a variety of environments that express the value of creativity such as an Center for technology and innovation, a gallery, a theater and amuseum (PD 2.1).

3.1.3. Decision making

"Employability is an overarching concept that guides our decision making at institutional level both on the side of academic and extracurricular activities" (P2.1). Decision making does not happen in a vacuum of industry and societal realities and such inclusion of current and potential employers in the decision making process is formalized through regular consultation (P2.1, P2.2, P2.3, P2.5). The information that is received from industry guides the decision making at institutional and departmental level. "Consultation with industry through focus groups and information from governmental reports feed a decision making mechanism that trickles down from executive management (Deans and Directors) all the way to the faculty and supporting staff" (P2.5). "For the schools, the Deans are the main drivers around decision making and action planning" (P2.1). This suggests the idea that the Deans need to be very well informed about the current state of the market and the future trends that are emerging, in order for the school to have a good alignment with the current and future demand for workforce. "Deans are present at the focus groups and therefore have first-hand insight around how employers feel about our programmes and the graduates these produce" (P2.5). "Most of our efforts are geared towards our current and future graduates in order to make sure we understand where they end up and to give them good chances to be successful when in the world of work" (P2.2). "Most of our decisions are based on statistics that sketch the picture of

the current employability of our graduates" (P2.3). "In terms of decision making budget is often a constraining factor" (P2.4).

KPI's and targets do not exist beyond traditional destination data. "80% employment after the first year is the national objective, and we are reported to have an average of 90% … graduates are our main focus" (P2.4). The institution however aspires to become a leading institution in its prorgammes and in its niche identities in the Thai HE landscape. "It is about outperforming other universities … comparing ourselves with them and doing better than them" (P2.2, P2.3). "It is a strategic goal for the university to become a leader in our three identities" (P2.5).

3.1.4. Communication around employability

Employability is considered a topic that can help develop meaningful and relevant communication with all stakeholders of the institution.
The internal communication between departments is mainly around exchanging statistics and reporting according to the institutional requirements whereby the Academic Affairs office plays a vital role to connect both academic and non-academic sides of things. (P2.1, P2.2, P2.3, P2.4, P2.5). "Deans and Directors communicate with one another around statistics and other information that concerns employability and how this information is being sketched together with extracurricular activities"(P2.5). Informal communication is mentioned by all interviewees as a situation in which employability is often a topic of conversation. Furthermore, formal communication mechanisms exist in order to communicate to faculty, staff and students around what is happening on campus to support the realization of the three identities. "There is an institutional use of news-letters, blast emails, sms and posters to communicate what is happening" (P2.1). Various notice boards on campus mention

notions of employability in particular events on and off campus that relate to career (O2.1). Communication with students happens through online and offline mechanisms that include informal collaborative efforts between extra-curricular departments and faculty. "We need our faculty to promote our events, because other ways of promoting do not seem to have much success" (P2.4). Communication around employability is also something that can happen through the student body itself by means of informal exchanges among students. "Word of mouth is a good way of making students aware of the value of our activities" (P2.4). "We assume that the presence of international students will lead to exchanges with Thai students around culture and other inter-national topics" (P2.5).

Communication towards external stakeholders is mainly around industry requirements in order to align the programme with the reality and by building the appropriate image of the university by actively branding it as such. The marketing of programmes and the institution in general consistently uses employability related topics when addressing its audience through the three identities. "The DNA is a good hook to tell a story that is meaningful and represents what we do … we use of a lot of employability information to explain to our stakeholders that what we do is relevant and makes sense"(P2.5). "Image building is very important … parents and students consider this (employability) as very important when they decide which university to choose "(P2.1)."We are part of a societal culture that gives a lot of credence to branding in an educational context" (P2.5). "Marketing uses 'creativity' very actively as a differentiating element of our brand" (P2.4). The challenge to effectively use the online world in order to communicate around this topic to all stakeholders is recognized. "A lot of things happen online now, so we need to be aware of that when

we evaluate how we communicate with our students and other external

stakeholders"(P2.5).

3.2. Theme: Curriculum

3.2.1. T&L Philosophy

The curriculum at HEI2 is delivered through a model that includes

theoretical knowledge around the field of study and the application of that knowledge

through lab work or practica. "The school has a good balance of theory and practice

… experiential learning is getting more attention institutionally … students are aware

of its importance too" (P2.4). "We consider a combination of the theoretical and the

practical and this mix runs throughout the whole programme" (P2.1). In terms of

employability development, the extracurricular activities are seen as a complementary

component to the formal learning process through which career competencies are

being addressed via a bolt-on approach in the form of various workshops (P2.2, P2.3,

P2.4) or are embedded in events such as "running small businesses during festivals

that include real considerations around pricing, profit and logistics" (P2.4). "Career

competencies are addressed more at an institutional level, whereas field specific

aspects of employability are addressed within the schools"(P2.5). The programmes

are delivered by both full-time and part time faculty. The full time faculty is more

academic oriented, which is complemented by the use of part time faculty (P2.1, P2.2,

P2.4) that brings the industry background into the classroom (P2.4) or by the

invitation of guest speakers (P2.1). Getting part time faculty involved in projects that

address career competencies is challenging (P2.4).

3.2.2. Outcomes

The overall outcomes that the institution aspires to achieve concern a variety of field specific and industry relevant elements such as knowledge and competencies as well as personal attributes, attitude and disposition. "We try to deconstruct the three identities and infuse them in the learning experience we give our students … this often includes unlearning of habits they have acquired in their previous learning experiences"(P2.5). This evidences the consideration of a holistic notion around employability. Each of these outcomes is always considered in terms of their alignment with industry and the world of work in the 21st Century. On the side of field specific outcomes the interviewees mentioned: "good technical knowledge" (P2.1), "skills that are relevant to the industry and generic skills " (P2.1, P2.5), "to be employed or self-employed upon or soon after graduation"(P2.1, P2.5), "have an effective command of English, particularly for graduates from Humanities programmes (P2.1) … however this is getting a stronger focus institutionally too" (P2.2, P2.5),"a certificate that is recognized by industry to validate the quality of our institution" (P2.4) and"have acumen around the international and local work environment" (P2.5). In terms of the interpersonal and meta-competencies the interviews revealed: "a useful set of career competencies" (P2.1, P2.4), "be confident and inspired to start their career" (P2.4), "ability to be creative" (P2.4, P2.5), "an entrepreneurial spirit around being accountable, taking initiative and take ownership of their work" (P2.5), "be a whole person" (P2.5) and "have a sense of internationalization" (P2.5). The learning outcomes of the courses are "Industry aligned" (P2.1, P2.2, P2.3) and "depending on the course, directly address the more generic competencies such as problem solving, communication, etc" (P2.1).

3.2.3. Design and Development

The design of the programmes follows institutional policies that abide by national quality assurance standards (P2.1, P2.2, PD2.1) and are then evaluated by governmental agencies before deployment. Each programme is consistently designed in collaboration with industry by means of a programme specific industry steering committee, in order to assure the programme is relevant and produces graduates that meet industry requirements (P2.1, P2.2, P2.5) and is supplemented by input of faculty in order to address the technical and T&L context (P2.1 and P2.5). This industry consultation includes - where relevant – professional industry standards or government requirements (e.g. experiential learning hours for hospitality, particular requirements around engineering certification or specific software abilities for graphic designing) (P2.1, P2.5). "The curriculum furthermore tries to include as much as possible international and global practices in order to enhance the international exposure we want our students to experience" (P2.5). Since such design and development process concerns school specific contexts, the drivers of this process are Deans and Directors in each school, which gives a certain level of autonomy to each school (P2.5, P2.2, P2.3, P2.1). There is however an overall institutional ethos to "embed creativity and entrepreneurship in the programmes where this is possible" (P2.1) and this "includes its formal evaluation process of learning … (whereby) the curriculum can include a variety of learning approaches that are creative ranging from music composition to hard-line business practices" (P2.5). The office of International Affairs strongly supports the idea of "education convergence and creative convergence, whereby everyone can be involved in the development of the learning environment e.g. students, campus gardeners, etc. … there are no limits to how an

individual can learn and can be creative"(P2.5). The full time faculty is mostly academic in their orientation to T&L and therefore "could be more creative, international and entrepreneurial … but it takes time to foster this"(P2.5).

Educational Tracks

Since recent the institution offers its learners two options of educational tracks to complete their degree: the general track and the collaborative education track. The institution also provides a bi-lingual programme whereby learners are encouraged to go abroad (P2.1, P2.5), and currently works are in place to launch a programme delivered in Chinese (P2.5). In the general track the learners are attending regular classes whereby theory and application are offered side by side. The Collaborative education track "includes more preparation for the world of work" (p2.4). The learners engage in their third year in an authentic learning experience whereby they go through experiential learning on a company site around a project that is directly related to their field of study. This track has a "formal screening process whereby either the university finds projects for the learners or they propose their own projects with companies of their choice … which must comply with quality standards of the institution … and the students work is being evaluated by both an academic and an industry supervisor" (P2.4, P2.5). The deliverables produced by the learners in this component have shown to be "very valuable to the collaborating companies" (P2.4) and often result in job offers, which "in terms of timing is an unfortunate issue in our course sequence" (P2.4).

The collaborative educational track has only recently been introduced but is suggested to be the more effective alternative to internships. "We used to run internships and saw positive results towards employability, but the introduction of our

Collaborative Educational track is believed to be able to address employability much more effectively" (P2.1). "The value of more practical education emerged from student surveys, and this was considered for the redevelopment of some of the programmes ….The Collaborative Education track in particular is carefully guarded for quality by means of developing the project and carefully selecting the learners that go into the project and where they are going … the programme shows great early results in terms of learners and company satisfaction, but will need more time to grow in popularity"(P2.4). HEI2 is one of the first universities to venture into the more applied side of things. The applied education approach is common place in vocational training institutions, but certainly a differentiator in the university landscape. "When comparing and benchmarking ourselves against other universities we have noticed that we need to find new mechanisms to outperform them". (P2.1) "The profile of being creative and our practical approach to education is definitely a result of this realization." (P2.5).

Valedictorian component

At the end of each programme the learners are required to engage in a "post-orientation component" (also referred to as the Valedictorian component) which has its entire focus on future engagement in the world of work and the relevant career competencies (P2.4). This part he of the transformation process formally addresses aspects such as "professional behavior, job search, CV writing, industry expectations" (P2.1, P2.4, P2.5). "The post orientation programme allows our students to see how what they can fit what they have learned in a context of job search and professionalism inclusive of entrepreneurship" (P2.5).

3.3. Theme: Support Services

The institution organizes its support services around employability through student services that work closely together and consistently liaise with the Academic Affairs unit. The services are mostly extra-curricular and provided by four units (Career Counseling, Work Placement, Alumni and Student Welfare) in the form of: events around career and the institutional DNA, making connections for collaboration with industry, workshops and trainings on career competencies, internationalization opportunities and a formal post-orientation towards starting a career. "They support the office of Academic Affairs in realizing a meaningful learning offering and preparation for the world of work" (P2.1). "The main effort around support activities for employability comes from the Career Counseling and Work Placement office" (P2.2 and P2.3). The institution's marketing department covers external promotion of its programmes and marketing communication aimed at relevant stakeholders towards the development of an appropriate and competitive brand image.

3.3.1. Career Counseling and Work Placement:

Both units work very closely with one another whereby they report their main role to be 'a gateway' that connects the institution with industry. "We operate as the link between the schools and the companies for everything that concerns career or industry connections … our focus is the graduates and soon-to-be graduates mostly, but we also strongly support the Collaborative Educational track, the realization of work placements for internships or other curricular oriented collaborations between schools and industry" (P2.2, P2.3). "They organize services provided directly to the learners that are formally organized in an activities calendar that is communicated to the students through an online portal " (P2.2, P2.3, P2.4).

Industry relations and Work Integrated Learning

In order to enhance the authenticity of the learning environment, the connection with industry is a pertinent factor through "all kinds of projects that involve industry where possible" (P2.5). This concerns on the one hand "exposure to industry for students and the institution as a whole" (P2.1)" but also involves the "identification of job placements" (p2.1). The support services help to connect the programmes with industry through building a network and connecting companies with the relevant parties in the institution spanning across students, faculty, Deans, Alumni etc. There is a reciprocity in the relationship with students whereby they can also bring in their own suggestions for companies they want to work with (P2.4) or with the faculty where they" do consulting work for industry and help us to build our network" (P2.2. P2.3). "The link with industry also helps us to bring guest speakers into the classrooms for different courses, which enhances the work context of our programme" (P2.1).

Aside from the optional Collaborative Education track mentioned above, the post-orientation programme is the most formal inclusion of industry into the programme whereby a variety of companies are invited "to address students and interact with them towards the context of their future careers and industry or company specific expectations" (P2.4). This mandatory component of the learning journey is organized for each school yet very much relies on the input from the support services.

Events

The various support service offices organize a variety of events on campus that are directly or indirectly addressing the future professional life of the learners through career days, job fairs, guest speakers and other activities to reinforce

the development of the institutional DNA (P2.1, P2.2, P2.3, P2.4, P2.5). "Three times

a year we organize a career event of which the biggest one is HEI2 Career Day"

(P2.2, P2.3). "Support services organize job fairs and extracurricular activities around

creativity and entrepreneurship" (P2.5). It is clear that the institution acts strongly on

its ambition to foster its DNA in its learners which complements the focus of

creativity and entrepreneurship all programmes aim to address and the

internationalization component that HEI2 pushes forward as an important part of

employability for Thai graduates. "We try to organize as many activities on campus as

possible that allow expression of creativity, internationalization and entrepreneurship

such as talent shows, festivals and creative art competitions" (P2.4). Participation in

the events allows learners to collect points whereby 16 points are a graduation

requirement. The Student Welfare office further issues 'activity certificates' to

learners that collect 32 points which aims at promote the strengthening of one's

professional profile beyond academic performance (P2.4). "We try to explain the

importance to students on how engagement in this type of activities can help them to

build their profile to future employers. (For employers) it is not just about GPA

anymore" (P2.4).

Workshops and standing services for the student body

Aside from planned events that address employability, the institution

also offers standing services to its learners that are highly focused on preparing them

for the world of work and building the bridge for exiting graduates to find a first job.

"Our team has undergone some trainings around career counseling and supporting

students in this area, but they are not experts by means of having official

qualifications in the field" (P2.2, P2.3). Its activities very much confirm the bolt-on

approach of the institution in addressing career competencies by means of organizing "training and workshops around personality, job interviews, cv writing, network building and job search practices" (P2.1, P2.2, P2.3). "The Career Counseling unit does not take part in the delivery of the academic programme, because the semester calendar does not have room for this"(P2.2, P2.3). The Career Counseling and Work Placement unit further offers learners support through "recommending jobs or internship placements to current students and to-be graduates" (P2.2, P2.3) but also engages in "supporting graduates who have difficulty finding jobs" (P2.1, P2.2, P2.3). The latter evidences some sort of follow up mechanism that goes beyond data collection of destination of graduates.

Interaction with internal and external stakeholders

From an operational point of view the support services provide a complementary component to the Academic Affairs office and subsequent programme specific activities resulting in informal and formal interactions around sharing networks, introducing contacts, reporting on destination and course review data, addressing the realization of the DNA beyond the formal academic efforts and supporting the provision of authentic learning experiences (P2.1, P2.5). "Student affairs supports the realization of the internationalization component of our programme by attending meetings and sharing networks to realise this"(P2.5). "We have regular meetings with directors and VP's from support services in order to develop carefully coordinated and aligned activities" (P2.1).

The larger proportion of interaction of the support services is logically with the student body and there seems to be a challenge in connecting with the student body from an early moment in their learning journey. "We experience low

engagement by students …our offerings only seem to become interesting in their final years … the (extracurricular) points system helps to secure some attendance" (P2.2, P2.3). The support services announce all their activities on an online portal but "visits to our online portal are very limited" (P2.2, P2.3). The communication is further supported by "sms, blast email, through faculty, posters, social media, through marketing department to put it through the media and by calling for meetings with different people to disseminate the information" (P2.2, P2.3) in order to make everyone aware of the provided services and increase the attendance (O2.1). "Faculty support is critical to reach students" (P2.2, P2.3) and part time faculty are found more difficult to get engaged in this (P2.4). Not only do "we need to find ways to promote the events internally in a manner that is more attractive to students (P2.4)" but also "finding timings that fit to bring learners from different majors together is a challenge" (P2.4).

In an effort to increase the effectiveness of communication around career competencies with particular focus on job placement and connecting job seekers with companies, the "Career Counseling unit is collaborating with the HEI2 Alumni office to develop and run a mobile and desktop application for job search that includes CV posting, connecting with industry, posting job vacancies and internships, etc)" (P2.2, P2.3). The Alumni office already has a website that posts job vacancies (P2.2, P2.3) but the application is hoped to enhance the effectiveness in engaging with students and graduates. They also connect with past graduates by means of a yearly survey to collect destination data and to identify alumni that are in need of support to start or further build their career (P2.1, P2.2, P2.3).

3.3.2. Institutional Marketing Department

The most prominent interaction with external stakeholders - in particular prospective students, parents and the larger community - happens through the institutional Marketing department. "The Marketing department uses success stories of graduates … and how faculty interacts with industry … to produce content for both internal and external communication … they form a strong part of the image building of the university to outside stakeholders" (P2.1). "The Marketing department is a very important unit to explain to the outside what we do, how we are different and how this makes sense" (P2.5). HEI2 has a dedicated webspace as part of the mother university's website that clearly outlines the programmes it offers and makes clear reference to creativity, entrepreneurship and internationalization as well as indicating the relevance of the programmes in relation to careers (PD 2.1). "The link with industry is very clearly present in the marketing rhetoric around HEI2… Pathways for careers are clearly outlined for students and parents" (P2.5). The Marketing department also supports the communication of events that are organized by the support services by means of pushing content into public media (P2.2, P2.3, P2.4). At institutional level there is "the 'Open-House Event' (which) is a yearly institution wide event that aims to make the public aware of what our institution does … this of course includes a lot of references to employability, creativity, entrepreneurship and internationalization" (P2.5).

3.4. Theme: Industry Engagement

The institution clearly values the involvement of industry in the development of its offering and its operations whereby through various "formal and informal contacts" (P 2.2, P2.3, P2.4) industry partners are involved in the realization of the

transformation process of graduates to employable young professionals. Such engagement occurs at various levels of invasiveness spanning across activities towards supporting general awareness around labour market realities (P2.2, P2.3), benchmarking of qualifications to industry standards (P2.1) and delivery of programmes (P2.1, P2.2, P2.3, P2.4, P2.5). The communication between the institution and the industry partners to exchange employability relevant information is often done online, yet the exchange with the student body is "far more effective and meaningful through face to face interaction" (P2.5). The institution is vigilant to engage with "the right companies with relevant positions for (our) graduates … mostly national but at times also international" (P2.2, P2.3). Such consideration is not a one sided consideration for institutional benefit to gather input or knowledge towards an effective and appropriate transformation process, but also concerns the benefit for the industry partner such as potential recruitment. This consideration for mutual benefit rests on a desire to develop sustainable and lasting relationships rather than fluid and superfluous ones. "Industry partners are always closely consulted on how they view our events and its effectiveness for them to recruit young talent" (P2.2, P2.3). "We always look for a win-win situation for us and industry. This means they get something out of it, which is quite often a potential hire" (P2.4).

Through "working together with professional associations" (P 2.1) and "consultation with professionals under the form of steering committees" (P2.2, P2.3) the institution gathers understanding of "what needs to be addressed through our curriculum and how this is best done" (P2.1), "what is currently going on in the job search environment" (P2.2., P2.4) and what type of "industry and company specific requirements" (P2.4, P2.5) are pertinent. The practice of consultation with industry

and its further inclusion in the programme forms part of the institutional policy around porgramme design and development" (P2.5).

Industry is further involved in the delivery of the programmes and extra-curricular activities that support the academic transformation process. The institution strongly believes in the value of people who are currently part of the industry environment and what this can bring to the transformation process. "We use different types of industries in order to deliver our programme" (P2.5). The faculty consists of a good amount of part timers (P2.1) who are currently active in industry and "who bring their industry experience to the curriculum" (P2.4). The use of guest speakers is a widely adopted practice throughout HEI2 whereby the guest speakers are either sourced through the Career Counseling and Work Placement office (P2.2, P2.3) or are invited through personal networks of the faculty (P2.1., P2.4). Company visits (P2.2, P2.3, P2.4) but also closer collaboration with industry under the form of internships (P2.1, P2.2, P2.3, P2.5) also form part of the institution's employability address. Generally the finding of and collaboration with locally based companies runs smoothly in contrast to the more challenging task of partnering at an international level which has proven to be complicated, yet not impossible (P2.4). "Deans are present at the conversations with industry when they evaluate collaborations, which allows to feedback to the faculty" (P2.5).

Beyond the purely academic environment, industry is also engaged through company delegations that visit the campus and actively take part in extra-curricular activities, competitions or employability related events (P2.1, P2.4). "Companies visit our campus to address graduates during Valedictorian Day" (P2.2, P2.3, P2.4, P2.5). "We have collaborations and partnerships with companies to develop

competitions for students … 'Digiday' (a competition that is organized by the

Marketing programme in collaboration with some tech-industry partners) is an

example of how our learners can prove their ability in a digital environment and come

up with viable solutions or new ideas in the digital domain … the marketing

programme works closely with many companies around marketing activities to

promote, design, pitch and improve existing or new products" (P2.5).

3.5. Theme: Quality and Measurement

The quality of the transformation process concerns various quality indicators

around which data is captured through multiple measurement systems. "Information is

being reported up and down the chain mostly within the department and in

collaboration with the institutional research unit" (P2.1). In most cases the formal

capturing of data and initial analysis or processing concerns end-of-process metrics

and some high level academic process data. This data is typically of quantitative

nature that is captured per school or programme and forwarded to the institutional

research unit which then disseminates the organized data/information to the relevant

parties in the institutional hierarchy. Deans are typically the gatekeepers of this

information that flows back to the faculty (P2.1, P2.5) whereas the academic unit

facilitates the information flow with non-academic departments such as the Career

Center (P2.2, P2.3). The data captured by the institutional research unit however

renders mostly 'very big picture' information, which does not indicate much around

the specifics of elements within the transformation process as such (P2.4). "Some

information is processed by the academic support unit (i.e. the academic arm of the

institutional research unit), which outlines the big picture … this information is then

being fed back to each school (where) the Dean analyses the information and

(facilitates) the feedback to the faculty (towards) improvement where needed" (P2.1).
The flow of quality related information to external stakeholders is instrumental to on
the one hand branding of the institution towards prospective students and industry
(P2.2, P2.3, P2.4, P2.5) and quality assurance in terms of accreditation (P2.1, P2.4,
P2.5). The branding of the institution is set in an environment that is highly influenced
by an "emotional ranking of universities by both parents and organizations (public
and private) … which is not necessarily correct but guides (particularly) companies in
their thinking and subsequent hiring decisions" (P2.5). Accreditation standards are
typically pursued at a level of national requirements around "how courses are being
delivered in terms of theory and practice mix" (P2.1), "collection and results of
various statistics around work placement and career" (P 2.2, P2.3), "evidence of
activities through pictures, attendance figures and evaluation statistics" (P2.4) and
"data from governmental assessments around fit for purpose through interviews with
industry" (P2.5). The national accreditation is argued to be an important part to
effectively position the institution in the societal and labour market landscape (P2.1,
P2.5).

The key informants' responses indicate agreement that quality around the
employability transformation process can be investigated through various indicators.
The mentioned indicators can be categorized in three themes: process, result and
destination. Process indicators concern qualifying considerations on how well the
process enables the transformation from entry level learner to employable graduate.
Result quality indicators represent the areas of impact that institutions focuses on in
terms of transformation process outcomes that warrant for employability. A third
quality indication of the transformation process is nested in the realm of the

graduate's destination in the world of work. The institution uses certain mechanisms to guard for quality but does not necessarily measure these. As previously mentioned, the consideration for the HEI2 DNA of creativity, internationalization and entrepreneurship is considered to be consistently embedded in as many learning experiences and environments as possible, as the institution believes this to be a fundamental quality factor towards educating the workforce of the 21st Century in Thailand. The profile of the faculty and an appropriate mix of theory and praxis are also deliberately considered to guard for the quality the institution aspires to deliver to its learners.

3.5.1. Measurement systems.

The institution has various systems of quality measurement in place that pertain employability. The majority of the efforts happen at the Programme level yet these efforts are governed by standardized institutional practice as evidenced in Table A-7 below. The involvement of various internal (faculty and students) and external stakeholders (Industry and government) in evaluation suggests good objectivity and instills confidence towards opinion forming by stakeholders, in particular government, prospective students and future industry partners.

Instance	Level Standardization	Level of Practice	Frequency
Quality review at design and development level	Institutional	Programme	When required for Quality assurance
Student progression	Institutional	Programme	Semesterly
Self-Evaluation Course review by Faculty	Institutional	Programme	Semesterly

Instance	Level Standardization	Level of Practice	Frequency
Surveying graduates and alumni	Institutional	Programme	Yearly
External Check by Industry	Programme	Programme	Yearly
External Checks by Government	Institutional	Institutional and Programme	Yearly
Consultation with professional associations	Programme	Programme	Yearly
Surveying Employers	Institutional	Programme	Yearly
Benchmarking with other universities	Institutional	Institutional	Ad Hoc
Labour market intelligence	Institutional	Programme	Ad Hoc
Events evaluation	Institutional	Institutional	Per Event
Student Screening before entering CE track	Institutional	Programme	Semesterly
Documenting industry visits and collaborations	Institutional	Institutional and programme	Per visit or collaboration
Focus groups with companies	Programme	Programme	Ad Hoc

Table A-1 HEI2 Employability Measurement Systems

3.5.2. Data

Besides the standard types of data from the student information system and graduates' destination, the institution captures some additional data around the environment, its interaction with industry and some additional process related data (Table A-8). Based on the information made available, it can only be assumed that this data is low in granularity. The data collected is however pertinent to the goal of employability, can be assumed to be highly quantitative and is suggested to serve a predominant focus on serving as input towards aligning the transformation process with industry and evaluating the overall effectiveness of the transformation process at the point of output. "For now we really only have big picture data … (there is) little data on the process as such" (P2.4.). Most of the data is collected through survey practices in collaboration with various departments and units (P2.4) however some information is gathered through more qualitative processes such as focus groups (P2.5) or personal consultation (P2.2, P2.3).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Course evaluation by faculty	Quantitative and Qualitative	yes	Low	Yes	Reported to Dean and used to improve courses
Course evaluation by learners	Quantitative and Qualitative	yes	Low	Yes	Part of continuous improvement and QA requirement.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
Satisfaction with events	Quantitative	yes	low	Yes	Used to inform future events and as part of QA reporting
Recruitment value of events	Quantitative - Qualitative	yes	low	Yes	Used to inform future events and as part of QA reporting
Satisfaction with learners and graduates	Quantitative and Qualitative	yes	unknown	yes	Relates to the CE projects and to the employers
QQA indicators	Quantitative (Binary mapping)	yes	high	yes	This is part of a self-evaluation review process
Points for extracurricular involvement	Quantitative	yes	low	yes	Graduation requirement

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
CE quality control (project, career development , participant and attendance)	Qualitative	yes	unknown	yes	Includes screening of learners on attitude and ability
GPA and SIS data	Quantitative	yes	high	unknown	Standard use for reporting
Information from professional associations	Qualitative	yes	High	Yes	Indications for objectives for each programmes and required content or skills
labour market information	Qualitative and Quantitative	yes	unclear	Yes	Informs institutional and programme's strategic direction - part of the rationale for a programme at QA level.

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
English Proficiency	Quantitative	In progress	Medium	In progress	Command of English was highlighted as a key employability factor.
Institutional image by industry	Quantitative and Qualitative	yes	low	yes	Part of the branding positioning efforts.
Employment status after 1 year (including self employment)	Quantitative	Yes	Low	Yes	Government requirement and baseline stats to communicate to stakeholders
Employment upon graduation (including self employment)	Quantitative	Yes	Low	Yes	Government requirement and baseline stats to communicate to stakeholders
Starting Salaries of Graduates	Quantitative	yes	Low	No	Government requirement and baseline stats to communicate to stakeholders

Table A-6 HEI2 Employability Measurement Data

The institution reports on 90% of its graduates to be employed after one year of which 20 to 30 % are self-employed. The School of applied arts, architecture, fine arts and accounting are programmes that yield very high success. Further granularity of quantitative data is considered as confidential. Institutional analysis of the results however indicates a reportedly strong determination to be improved yet this is perceived as a challenging endeavor (P2.1, P2.5). The granularity of the data is recognized as a limiting factor to illuminate the full context and results. "Finding a job is one thing, finding a good job is something else" (P2.1). "Situations of the labour market are different for each field and are time dependent" (P2.2, P2.3). "We have little data around extra-curricular involvement… the (extracurricular) point system allows us to motivate for and track engagement with extra-curricular activities"(P2.4).

APPENDIX 5 Case Study 3 HEI3

1. Case Specific Data Sources

The presentation of the transformation process that HEI3 has in place, is based on interviews with 4 key informants, information from various accreditation reports, information in the public domain and personal observations. The case is in its majority built on the information that is gathered through interviews with key informants of which the findings are further corroborated and enhanced by the other data sources where possible and deemed necessary. Data collection has been constrained due to limited availability of people to interview and elements of confidentiality. This case is particularly valuable to the building of the model in terms of the way the institution interfaces with industry and integrates authentic and experiential learning in its transformation process.

1.1. Interviews

This data source concerned interviews with 4 key informants. These interviewees were deemed key on the basis of their position, tenure and involvement in the organization (Table A-9). The respondents all hold senior or managerial positions in the institution which allowed for the capturing of both strategic and operational relevance to the transformation process.

Participant nr	Position	Tenure	Key involvement relevant to this study (Department and role)
P3.1	Associate Dean for Accreditation, Strategic Audit and International Developments	+10 years	In charge of accreditation attainment and internationalization of the programmes. Liaises with various academic units, student services and the career center.
P3.2	Associate Academic Dean 'Formations et Pedagogies'.	+10 years	In charge of pedagogic and academic matters for all programmes inclusive of admission, registration and graduation. Liaises in particular with all Academic Deans, with the office for Accreditation and International Developments, Career and Internship Center and Marketing - Promotion department.
P3.3	Dean for the Integrated Master in Management Programme 'Grande Ecole'.	+10 years	In charge of all matters related to the Integrated Master's Programme (Grande Ecole) which includes liaising closely with other Academic Deans, the Career and Internship Center, International Affairs and Marketing - Promotions department.

Participant nr	Position	Tenure	Key involvement relevant to this study (Department and role)
P3.4	Manager Career and Internships Center	+10 years	As part of the Corporate Relations office this function exercises a dual function by means of managing the provision of career guidance and career competency development and by managing the facilitation of internship placements for all students at the institution. As part of the corporate relations office it also liaises closely with International Affairs and Academic Affairs.

Table A-7 Key Informants TEM

1.2. Internal Documentation provided

- Self-Evaluation Reports for accreditation (AACSB, AMBA and EQUIS) (referred to as D3.1)

1.3. Information in the Public Domain

- Website (referred to as PD 3.1)

1.4. Observation during site visits

- Facilities (referred to as O3.1)

- Notices (referred to as O3.2)

2. Background and concise context

HEI3 was founded in 1979 and operates a "public business school in the

French Grande Ecole tradition" (PD 3.1) under the oversight of the French Ministry of

Economy, Industry and Finance. Since its inception, HEI3 has been the management school within a larger public university specializing in engineering and numerical sciences. As will be evident from the remainder of this case, the close relationship to the engineering field, in particular the information technology domain, positions HEI3 quite uniquely in the French HE landscape. Since 2015 HEI3 is also part of the French Center of Excellence Université de Paris Saclay, giving further testament to the quality standard of its awarded degrees and its overall position in the French HE system. "Our closeness with the engineering school really helps us to develop a transdisciplinary mind set in our students, which is very important when we look at the way companies operate today" (P3.2). The institution has up to date graduated over 4000 young professionals in programmes that range from Bachelor's, Master's, Executive MBA to Phd level in the fields of management and engineering technology. The manner in which Bachelor's and Master's degrees progressively link with one another follows the traditional Central European approach of 3 years Bachelor studies and 2 years Master studies. HEI3's Integrated Master's programme comprises of 3 years of which the first year is the final year of its preceding Bachelor's programme. HEI3 is renowned for its "dual expertise in Management and ICT" (PD3.1) which is evident in all its programmes and not in the least in the professional destination of its graduates (P3.1, P3.2, P3.3, P3.4). The institution furthermore is cognizant of the value of instilling an entrepreneurial spirit in its graduates and has various direct and indirect mechanisms in place to foster this, ranging from entrepreneurship oriented programmes (PD3.1), core and elective courses that cover entrepreneurship related topics (P3.3), a 'Challenge Projet d'Entreprendre' (P3.2, 3.4, 3.4, PD3.1) and an incubator located on campus (P3.2, P3.3). A clear trend is perceived around the

aspirations of HEI3's graduates to be part of start-ups and smaller organizations as they progress through their educational career and their professional life. "The choice of internship in the last year of the Bachelor's programme is typically a large firm, whereas the choice of internships for the final year in the Master's is typically a smaller organization or a start-up" (P3.4). "We observe a trend from our graduates to start off their professional career in large telecom firms, consulting agencies or banks, but after 3 to 5 years we can see quite a few move towards smaller companies or get involved in start-ups … I cannot validate this with data, but it is a trend I personally observe from my Linkedin network" (P3.2). According to the '2015 Young Graduate Survey', administered by the Conference des Grandes Ecoles in 2016, the initial destination of HEI3's graduates is mostly in the sectors of Audit & Consulting, IT services and the fields of Finance, Bank or Insurance (PD3.1). The HEI3 website further points at its incubator currently housing "more than 20 start-ups involving more than 160 entrepreneurs. Over the last ten years, the incubator has created over 100 companies employing more than 1000 people" (PD3.1).

 HEI3 offers its learners what it names the 'best return on investment in the market' by means of being the Grande Ecole that offers the lowest tuition fees against being ranked among the top 10 management schools in France in terms of salary upon graduation (Gross yearly salary of 40520 EURO) and being ranked 2nd for alumni salaries after 3 years of graduation (PD3.1). "Our graduates are in high demand in the market, at least 60% of them have a job before they finish their last course in our programme"(P3.3). According to the '2015 Young Graduates Survey' "70% of the HEI3 young graduates found their first job before graduating Télécom Ecole de Management and 99% of the young graduates found their first job in less than six

months" (PD3.1). "Anyone who graduates from this school and wants to work will find a good job, even after the crisis" (P3.1).

The school's prestigious national 'Grande Ecole' quality stamp is furthermore strengthened by international accreditation awards of AMBA and AASCB (PD3.1), giving re-assurance to its stakeholders that it lives up to international standards of higher education and establishing a level of international recognition of quality to other HEI's and employers in an international environment. HEI3 is furthermore a member of European Foundation for Management Development (EFMD) and the Fondation Nationale pour l'Enseignement de la Gestion des Entreprises (FNEGE) adding to further recognition of its quality regionally. HEI3 supports international opportunity by means of international partnerships with over 100 universities, the offering of courses for 9 different languages, a student body of over 50 different nationalities, offering numerous programmes in English, having an international faculty and offering more than 10 double degree programmes in collaboration with international HEI's (PD3.1).

HEI3 proudly asserts its professional network by means of stating its partnerships with over 300 corporations, its 4000+ active alumni and the receiving of 5000+ employment offers per year from industry (PD3.1).

Its mission statement highlights employability in terms of work-readiness for the future and entrepreneurial spirit in the new economy of the 21st Century with a clear assertion of its link with and focus on the professional world.

"A public, socially inclusive, higher education institution, HEI3 trains future managers and entrepreneurs to be responsible, innovative and open to the world around them and to lead their organizations in the major transformations of

tomorrow's society: digitalized economy, energy and ecological transition, new business models and industry of the future.

Leveraging its research and education programs, its support of innovation and entrepreneurship, its close relationship with business and its engagement within its territory, the School aims for excellence in contributing to economic development both nationally and locally, while creating value for all its stakeholders." (PD3.1) HEI3's values of being "Audacious, In search of excellence, Open and Responsible" (PD3.1) reflect clearly the sense of preparing the workforce for the future, for the new economy and society of the 21stCentury, inclusive of an innovative and entrepreneurial spirit. "We want our students to be able to address the problems of companies today and the future … they need to be open minded … ask the right questions … and excellent at what they do" (P3.2).

3. Employability Transformation process

3.1. Theme: Leadership

3.1.1. Strategy

Employability is clearly a strategic focus of the institution in the sense that it is seen as a prime competitive advantage and employability development is a clear core competency of the organization (P 3.2, P3.3). This is evident from the end of process indicators around employability such as employment upon graduation in the field of study, the earning potential associated with its awarded degrees and the career development of its graduates. This can be attributed to HEI3's commitment to addressing "the economic and company requirements for the 5-10 years to come" (P3.2). "We have good alignment with our mission" (P3.1)."Everything we do is about developing employable graduates" (P3.2).

The institution has been very successful in forging effective relationships with industry, securing quality labels at national and international level and a strong network of collaborations with national and international HE providers (P3.1, P3.2, P3.3, PD3.1). "We have very high collaboration with companies for learning"(P3.1). "We focus very much on building a strong brand image of the school towards companies"(P3.2). "We see industry as partners and of course they represent the demand side for our output" (P3.4). "We are selective on which companies we work with …we constantly search for new partnerships that will help us to address the needs for the future … we work together with other schools but also the public sector in terms of fitness for purpose … highly focused on the development of professionals"(P3.2).

The uniqueness of HEI3's position in the market is strongly defined by the focus on praxis alongside theory with an uncompromising commitment to compulsory learner engagement with industry. "We position ourselves through praxis as different and more employability focused than universities" (P3.3). Of high importance is the inherent interaction of HEI3's learners with those from the Engineering school with which HEI3 shares its campus. The students bodies are far more intertwined than merely sharing physical facilities since "Humanities classes are mixed, some student projects use interdisciplinary teams, the Challenge Projet d'Entreprendre is mixed and all students associations are mixed" (P3.2, P3.3). This is a point that is argued to be highly instrumental to the development of versatile managers for the future (P3.2, P3.3, P3.4). The Director of HEI3, articulates this very clearly in the promotional video on HEI3's website by stating that "this is very interesting for our students because they can share classes, projects and experiences

with engineers, which is very important when they reach the professional life because they know how technology works and how people in companies manage technologies" (PD3.1).

3.1.2. Organizational Culture

The institution does not have a formal definition for employability yet considers it as an "intuitive notion" (P3.3) of which "the whole organization is very well aware and conscious of its importance" (P3.1) and sees it "realized through the institutional Assurance of Learning (AOL)" (P3.2) and "through a framework of curriculum and support services" (P3.3). Therefore the totality of the transformation process is carefully considered towards a desired output. "It is as much about making sure they go into a valuable internship as well as landing a job at the end" (P3.4). "We are in a process industry, so the process is as interesting as the end output" (P3.2). Since the attainment of the AMBA and AACSB accreditation, the institution seems to have been focusing on various other elements that require attention, and even though employability is clearly evident at the heart of the institution, focus may have shifted somewhat to dealing with operational issues as a results of short staffing in some areas (P 3.1, P3.3). That being said, employability is "still considered a priority but lacks formal articulation by senior management"(P3.1, P3.2). Employability remains a topic of discussion at senior level yet the information does not always flow effectively through the organization (P3.1, P3.3). "We need a stronger, more formalized information system in order to smoothly communicate with support services to enhance our programme in a more efficient manner … we are working on a system to improve the information flow around accreditation" (P3.3). Conversations around employability between Deans and their faculty and between departments are

more informal and on ad hoc bases rather than in a formalized manner. "I receive lists of alumni contacts when I ask for them … formal communication mechanisms need to be developed" (P3.1). "We have discussions at senior management level around employability" (P3.2). The only formal communication process that is specifically about employability would be the communication mechanisms around internships with the career and internship center, which will be elaborated on later in this document. "We have an automated system in place to process internship confirmation that involves students, faculty, deans and companies" (P3.4). Communication with existing students to showcase the value of employability happens through information on TV screens, regularly organized events, some dedicated courses in the curriculum (P 3.3) and a dedicated "web portal called E-campus that provides various information around internships and career related information" (P3.4). Communication with external stakeholders happens in various ways. The institution has a formal Corporate Relations office that is in charge of developing and maintaining the relationships with industry (PD 3.1, P3.1-4). This take the form of formal meetings with companies in search for partnerships (P 3.4), through formal consultations around curriculum (P 3.1-4), a 'corporate day' whereby industry partners are invited on campus to discuss various topics of established and potential collaboration (P 3.2), and more informal relations through the faculty (P3.2-4). Communication to national and international accreditation agencies happens through formalized reporting structures (P3.1) and uses various external sources to have the necessary information to develop the required rhetoric (P3.1, P3.3). Communication to prospective students happens through engaging the Marketing - Promotions office who collaborate with the required units to develop marketing materials and content as

required and participate in external events such as the yearly national job fair in Paris (P 3.3). "The communication to prospective students very much uses employability as part of its rhetoric … data helps to develop our discourse … but I also like to take current students with me" (P3.3).

The institutional approach firmly promotes the value of mirroring real life in respect to how learners progress through their degree by means of not only high interaction with industry through internships and a very high number of external faculty members from industry, but also by means of putting large responsibility of learning on the learners. "We are facilitators, we do not spoon feed them … the students need to take responsibility and make their choices just like in real life" (P3.4). "We give them the blocks and the cement, they need to build … "(P3.2). "We prefer to have students that are interested in what they do, rather than make everything compulsory … the ownership lies with the student" (P3.3). The link with industry and being at the cutting edge of what companies require is addressed through the inclusion of adjunct faculty, particularly in the years of specialization (i.e. majors). Adjunct faculty is seen as very valuable and an integral part of the school's body of knowledge. "The use of adjunct faculty from industry is very important for us" (P3.1). "We refer to them as professionals rather than adjunct, because the term adjunct does not reflect the value they bring to our school" (P3.3). The institution also puts quite some emphasis on the value of innovation and entrepreneurship by means of committing entrepreneurial activities on campus (P3.2. P3.3. PD3.1) and is "in the process of developing a dedicated space for authentic learning and simulation" (P3.2).

3.1.3. Decision Making

HEI3 has few KPI's and targets in place that allow to monitor the transformation process as a whole. Its formal structures around quality assurance and in particular AOL (D3.1) are used as the governing mechanisms to address employability (P3.1, P3.2). The fact that employability development can be seen as an "intuitive notion" (P3.3) woven into the fabric of the organization may explain the absence of dedicated measures. "It would be too complicated to have KPI's split around the development of (employability) skills for our graduates … it is interwoven in the process" (P 3.2). "We have formal processes in place that guard for quality and those includes employability" (P3.3). Decisions are driven by "general information, destination data and qualitative discussions between senior management" (P3.2) when it comes to strategic matters. "We have a board that brings all Heads of school together, were we discuss various things including employability and how we can work together in a more effective way" (P3.2). This has resulted in a recent commitment in "investing in learning areas for simulations and authentic learning" (P3.2) and an address of the curriculum of the Integrated Master's programme with "a specific address of professional identity through professional valorization components in conjunction with the career center" (P3.3) aside from the continuation of mixing the student body at an institutional level.

In terms of industry partnerships, the institution searches for companies that share the values of the institution and provide a meaningful and positive learning experience to the learners. "We are selective on which companies we want to work with … based on shared values" (P3.2). "After evaluation of the overall experience with a company in an internship, we decide whether we want to

work with a company again or not … we sometimes stop internships in the middle" (P3.4). Decision making is furthermore driven by legal requirements in terms of accreditation and internships. "We try to be innovative, but we have to follow the requirements of accreditation … which puts us sometimes on a narrow path" (P3.2). "There are legal and academic considerations around internships that must be followed if we want to work with companies" (P3.4)

3.1.4. Professional development

In terms of professional development that is focused on employability there is very little evidence found at HEI3. "There is little to nothing available internally … staff can exercise their professional development right according to French Law, but nothing happens focused on employability to my knowledge" (P3.1). "We face the same issues as the companies … some of our people are ready to deal with the changing environment and some are not … it is difficult to force professors to change " (P3.2). It is fair to say that in terms of professional development for employability "there is nothing formally in place" (P3.3).There is some engagement by the institution in communities of practice (COP's) around accreditation "where employability elements are discussed at times" (P3.1) and the institution shares good practices around accreditation in terms of national (Grande Ecole) and international attainment (P 3.3), this however only addresses employability indirectly in a reporting capacity and not practices of development as such. The sharing of best practice around employability in the institution and its subsequent result of 'on the job' professional development of individuals is limited even though the "structures of the overarching HEI around sharing best practices for other areas would be a good format to develop something for employability" (P3.1). The center for Career and Internships

however does report on having participated in training around active listening in a counseling context, CV writing focused on the French labour market and for the delivery of a co-orientation module for students around the development of professional identity, which was facilitated by the our overarching HEI (P 3.4).

3.2. Theme: Curriculum

3.2.1. Design and Development

The curriculum of HEI3 is designed around a mix of theoretical and practical learning experiences through learning environments that include high levels of authenticity, are experience oriented (work integrated or experiential) and place the learner central to the learning journey (P3.1-4). The curriculum is as about "knowledge acquisition and application"(P3.1). "We try to develop the right learning environments i.e. highly authentic and interdisciplinary … using lectures, internships, apprenticeships, business games and simulations … with as much time as possible with our professors"(P3.2). The student-professor ratio of 16 to 1 (PD3.1) suggests the possibility of high interaction and the development of appropriate professional learning relationships." We try to get our students to have a much time as possible with professors "(P3.2). "We deliver programmes for employability that strike a good balance between soft and hard skills inclusive of career competencies … it is about developing a professional in the full sense of the word" (P3.3).

In the spirit of academic freedom, the faculty is given high autonomy around how they run their courses and what they include in it. That being said, the design and development of programmes and courses is done with accreditation requirements in mind which includes formal consultation mechanisms with industry in the form of advisory boards for programmes and steering committees for majors

(P3.1, P3.2, P3.3). In these consultations, the course contents and desired employee profiles are discussed on a yearly basis in order to make sure the programmes are aligned with what industry requires (P3.2, P3.3, P3.4) and this results in "changes in courses on a yearly basis" (P 3.3). Even though employability is predominantly evident in courses that address soft skills such as self-reflection, teamwork and presentation skills (P 3.3), career competencies are addressed through a bolt-on approach in the form of sessions around cv writing, mock up job interviews and job search. The curriculum formally requires every learner to have engaged with the provision of such support services (P3.2, P3.3) through which they are a formal part of the curriculum.

The curriculum also includes "a mandatory international component through summer school abroad, an international internship or an internship in France in an international environment whereby the language of practice is one other than their native tongue" (P3.1). "The E-campus platform provides all HEI3 students access to an application called 'Going Global' to find information around international internships and general information about living abroad … covering information about over 100 countries" (P3.3). "I would like all our students to have an international internship (i.e. internship abroad), but this is hard to secure … there is demand for international exposure (i.e. going abroad) as a student, but the desire to eventually work abroad is low" (P3.3).

From a curriculum design point of view HEI3's approach is according to HE norm by using prerequisites to guard for and assure potential success of its learners in their academic journey. Value is seen in introducing not only soft skills, but also content and discussion around professional identity as an integral part of the

programme. The programme "combines soft skills and hard skills … and from the beginning there are courses that address professional valorization" (P3.3). The school furthermore uses a "scaffolding approach to the development of abilities and skills and by means of introducing authenticity and interdisciplinarity step by step" (P3.2).

3.2.2. Outcomes

HEI3 puts the development of competent professionals at the forefront of its programme outcomes under the form of graduates profiles that reflect competencies that are relevant to the industries and companies of today and tomorrow (D3.1, P3.2) and which are evaluated and confirmed through the institutional practice of AOL (P3.1, P3.2). "It is all about critical thinking, skill mastery and being able to work in companies … one of the general learning goals is about master of technology for management" (P3.1). "Our outcomes have a particular focus on technology, information technology and entrepreneurial acumen … but we also promote values such as open-mindedness … excellence around performance … thinking outside the box … and adherence to basic principles of good behaviour "(P 3.2). The student centered perspective carries through to its statement of outcomes around employability, whereby the institution aims to produce graduates that are "able to find a position that will allow them to grow and be able to develop themselves to address issues for the next 5 – 10 years" (P3.3). The development of professional identity is considered as an inherent part of this (P3.3, P3.4) whereby the institution feels strongly about placing the onus on the learners to become self-aware in a professional context by means of making its learners "think about the future from a professional point of view" (P3.3). This includes not only field specific technical knowledge, but also a strong component of humanities in terms of "ethics, responsibility and

sustainability" (PD 3.1). The overall goal is to develop graduates that are "problem solvers with a critical mind … develop critical questioning and the ability to reason … inclusive of ethical considerations for problems and solutions" (P3.2) and "help them to build a strong and effective resumé (to) prepare them to find, get and do a job properly (and) behave properly in a management function" (P3.3). "HEI3 produces self-aware young professionals (who are) knowledgeable in their field, have an understanding of what they want to do and are able to find a job" (P3.4). The assessment of the curriculum depends on the course and consists overall of examinations, apprenticeships, simulation games, project reports and oral defenses which are administered by the faculty and/or the industry partner (P3.1-4)."What we want our student to know and be able to do is clearly outlined for every course … skills and competencies are included and evaluated in the assessments" (P 3.2). "Apprenticeships and internships are the curriculum components whereby industry is involved in the evaluation" (P3.3).

3.2.3. Interdisciplinary and entrepreneurial focus

TEM takes full advantage of the presence of engineering students from the Engineering school on its campus through the development of interdisciplinary learning experiences where possible. "We mix students of various disciplines together in humanities courses, student associations and (where appropriate) projects" (P3.2). The development of interdisciplinary components in a curriculum is found to be challenging since "it not easy to get all faculty working together and operate outside of their field expertise or in conjunction with someone who is out of their field … and it is furthermore a questions of trade off with developing the learners field specific expertise" (P3.3). As much as this complicates the development and delivery of the

curriculum, it is felt this is only to the advantage of the learners in terms of their employability. "The benefit of interdisciplinary approaches to learning is that it helps the students to become versatile managers (that are) able to work and communicate with experts outside their field of expertise" P(3.2).

The programme furthermore also addresses the entrepreneurial spirit that HEI3 believes fundamental to today's economy. The curriculum therefore addresses entrepreneurial components in the final year of its Bachelor's programme and in all three years of its integrated Master's programme, of which the last year it is an elective component (P3.3).

The '*Challenge Projet d'Entreprendre*' (Challenge enterprising project) is a learning experience, and a formal part of the curriculum, to which HEI3 proudly showcases its participation (PD3.1). This is a compulsory project whereby mixed teams of various schools are tasked to address a technology oriented challenge, proposed by a partner company, by means of developing a business plan towards the creation of an innovative, technology oriented solution. This project aligns very well with HEI3's aspirations to "address the digital challenge that firms face nowadays towards innovation"(P3.2). "It gives attention to the interdisciplinary aspect as well as team work orientation" (P3.3). The 4 winning teams get a chance to take their project to the incubator on campus and the overall winning team goes on to participate in the global challenge organized at Virginia Tech in the US. "We want them to have experienced what it is like to be part of something entrepreneurial (challenge or incubator) - this is a real transformational experience for most of them … work under pressure, work together, how to lead and how to follow, negotiate and compromise" (P3.4).

3.2.4. Professionals as adjunct faculty

The curriculum is delivered by an international faculty of over 55 full time professors and more than 200 adjunct faculty (P3.3). The full time professors have high theoretical expertise in their field which is considered fundamental to the learning process (P3.2) in particular at the start of the programme, where the courses are more theoretically oriented to provide a good foundation to build on (P3.3). The adjunct faculty typically consists of people from industry "that bring the reality of a course to the class room … and I appreciate it very much when full time faculty invite guest speakers to be part of their class" (P3.3). The adjunct faculty are dominantly present in the Major courses (P2.3, P3.3) and considered instrumental to the programmes' address to employability by means of not only bringing the cutting edge of industry to the classroom, but also towards exposing learners to professional work behaviours and the building of potentially beneficial networks for career opportunities. "The relationship with industry through professionals in our faculty is a win-win situation. We get their experience in our programme and they get to earmark talent for employment" (P3.3).

3.2.5. Compulsory internships or experiential learning

The internships are considered pivotal to the learning experience of HEI3's graduates (P3.1, P3.4) which frames in an institutional academic set of requirements as well as a legal structure at national level (P3.4) of which the latter shows the recognized value of the practice of WIL by the public opinion in France. Such legal structure presents both benefits and potential drawbacks to the organization of work integrated components in the curriculum. It provides a practical framework to outline contractual agreements between companies and learners and

creates a clear structure to both parties around accountability and expectations (P2.4). At a more conceptual level, overly structuring the concept of an internship at times may lead to impractical requirements around internship hours to be served and time frames in which the hours can be accounted (P3.3).

At HEI3, to complete any degree at Bachelor's and Master's level, the learners are expected to have at least completed respectively one or two work integrated or experiential learning experiences under the form of internships or apprenticeships (PD 3.1-4). "The real life experience is very useful to develop skills" (P3.3) and "to learn about rules of the companies" (P3.4). The concept of experience and developing professional identity is integral to learning at HEI3 (P3.1-4). The onus of securing an internship lies fully with the student because "just like in recruitment, there is an aspect of choice, if we were to assign the internship, it would not reflect this idea" (P3.4). The industry partners are closely involved in the development of the general internship structure, yet each internship is found and proposed by the student is evaluated to meet the academic requirements of the institution (P3.2, P3.4). The internships include the companies as active partners in the learning process and engage them in the final evaluation of the interns whereby they formally assess the interns on certain behaviours (P3.3, P3.4) and they attend and evaluate the final defense (P3.1-4). The point of this internship is not only the attainment of professional experience but also to foster self-awareness and professional identity whereby the latter has been given progressively more attention over the last few years (P3.3, P3.4). In the report and during the oral defense learners present not only the work they have done, but also what they have learned and how this internship has been useful for their professional growth. "Students need to reflect on their internship

… have they learned something or not … this (reflective component) is in the process of being improved … even if they stopped their internship prematurely and shifted to another one mid-process, this is a learning event and it becomes part of their presentation at the end … they have the right to make mistakes, but need to show that they learn from that" (P3.4). The approach to the internship in terms of students finding the placement themselves and being the central point of contact in securing and maintaining the relationships between all stakeholders involved, aligns very well with the pursuit of authentic learning experiences to mirror real life and prepares the learners for the world of work in their field of study beyond technical performance in the domain of study.

3.3. Theme: Support Services

In terms of support services the Career and Internship Center is by far the most instrumental in the development of employability as will be elaborately evidenced below. The outline will give detailed evidence on how this service is highly integrated the transformation process, and can be argued to be a core element to its success. The other support activities (Alumni office, Marketing-Promotion department, incubator and student associations) have a far more peripheral role in the institutional transformation process.

3.3.1. Career and Internship Center

The Career and Internship Center is the engine for any WIL activity in the programme and furthermore, as part of the corporate relations, is the critical liaison between industry and the institution in terms of learning opportunities and employability (P3.1)."They provide us with companies that we can work with … and facilitate the invitation of outsiders to address our students" (P3.2). "They help us to

identify companies that are useful for us to work with"(P3.3). The office for international affairs, which operates in physical proximity with the Career and Internship Center - and by that nature engages with it quite regularly - supports the international arm of the internship when appropriate (P3.1, P3.4).

The center is certainly recognized as central to the development of employability from a more generic skills and professional identity angle. "They offer plenty of support services around finding internships, operating as professionals, CV and job hunt related activities"(P3.1). "They provide a series of support services around career … they provide career guidance to our student body in general or on a personal basis if this is elicited from them" (P3.2). "They organize external people to come and provide developmental opportunities for students when it comes to career competencies and job search … they organize activities on campus all year around … lots of events where companies visit and address our students" (P3.3). "Four times a year we have campus recruitment forums so students can meet companies on campus - typically 40 companies per forum are involved" (P3.4). In terms of student engagement, HEI3 experiences a lack of engagement at the start of the year and by junior learners. Once learners become more senior, their engagement with support services around employability is much higher and much more meaningful. "The engagement of students in our events depends on the time of the year. In the beginning (this is) not so much (but during the) second semester (this is) more. Also progressively more interest as they become more senior" (P3.3).

Based on the place and importance of authentic learning and internships in the curriculum, and the role of the career and internship center in supporting this agenda, it is safe to say that this support service is strongly integrated

with the core curricular activities but perhaps not so much with other components of the transformation process. "Our interaction is only formalized with academics, with other departments (e.g. Marketing, Alumni, Incubator) this is ad hoc - on a need-to basis" (P2.4). The Career and Internship Center's involvement does not limit itself to curricular integration through the facilitation of on average 900 internship contracts per year and everything in its periphery (P3.4), but it also includes active involvement in the organization of on campus events focused on employability such as job fairs, company presentations, mock up interviews, workshops around career competencies, 1 on 1 personal and career counseling or supporting advice around internship progression in case of concerns (P3.4, P3.3). For quite a few of those activities, participation is an integral part of the formal curriculum completion requirement (P3.2. P3.3) pointing again at the integration of support services in the curricular side of the transformation process.

The Career and Internship Center's online support platform is called E-campus, which is mainly oriented towards the matching of learners with possible placements for internships for both HEI3 and Engineering students. The platform however holds information that goes beyond supporting internship by means of providing information around jobs, employability related events on campus and internationalization (P3.4). The web portal is however not as effective for sharing such type of information compared to facilitating the internship since it is an institutional process. "We run workshops and info sessions to explain the process of finding and applying for an internship … students upload their cv's/profile on our web portal … we post companies offers and student can then apply … or students can bring their own internship that they found from other websites, but they still need to

follow the official application process through E-campus … we use blast emails to diffuse jobs/vacancies from alumni to current students and graduates" (P3.4).

The career center consists of a team of people with professional experience around counseling and recruitment, yet none of them are professionally qualified in the field of career management. The team has undergone some professional development as indicated above, yet is cognizant that further development would allow them to tackle employability more effectively particularly on the side of one to one career counseling (P3.1, P3.4).

3.3.2. Alumni

The role of Alumni services in the employability transformation process is limited to the provision of some data when required for accreditation purposes (P3.1, P3.3) or for ad hoc exploration of potential beneficiary collaboration between working Alumni and HEI3 through the Career or International office (P3.1, P3.4). The Alumni office resides under the corporate relations, yet does not seem to be very developed in terms of its relationship building ability. "We must capitalize better on the alumni chapters abroad in order to develop the internationalization of our programme … Alumni chapters abroad can be very effective and supportive (e.g. London, NY and Montreal)" (P3.1).

3.3.3. Marketing – Promotions Department

The role of the Marketing-Promotions department is supportive to employability in terms of promotional activities towards external stakeholders with a strong focus on image building towards companies (P3.3.) and promoting HEI3 to prospective students (P3.2, P3.3). The content on the website is fully focused on the connection with industry, the relevance of the programme with today's economic

trends in its domain, and provides up to date, factual evidence from 3rd party sources

around destination data (PD3.1). Its address is highly focused on elaborating about the

manner in which association with HEI3 (particularly as a student) is a gateway to a

strong, up to date and meaningful professional network. The facts and figures are

typically sourced from 3rd parties in order to enhance the credibility of the statement

(P3.1, P3.2, P3.3). The heads of school typically liaise with the Marketing -

Promotions department towards developing content to either celebrate success stories

or build an effective recruitment campaign towards prospective students of which

employability is a central tenet (P3.3). "The Marketing and Promotions department

does a very good job at identifying successful alumni and developing content for

student recruitment" (P3.1) which is communicated to internal stakeholders through

posters (O3.2).

3.3.4. Incubator and student association

In support of its entrepreneurial and technology orientation, the

campus has housed an on-site incubator (O3.1) for over 10 years. This incubator has

an indirect link to the curriculum through the Challenge Projet d'Entreprendre and has

resulted in "the creation of over 100 companies employing more than1000 people"

(PD 3.1).In the periphery of extracurricular activities to foster student life, HEI3 has

"60 student associations and clubs" (PD3.1). They all mix HEI3 and Engineering

students which actively enables the exposure beyond ones discipline and organically

grows the appreciation for trans-disciplinary thinking and practice (P3.2, P3.3).

"Mixed student associations help to foster a sense of interdisciplinary value around

projects and career perspectives" (P3.3). One of the clubs is active in the consulting

business whereby typically trans-disciplinary teams tackle consulting projects for

companies in the field technology and innovation (P3.2). There is also a student association that is involved in supporting prospective student recruitment (P3.4), whereby the story of the learner is recognized to be far more powerful than any scripted or constructed marketing discourse (P3.3).

3.4. Theme: Industry Engagement

HEI3 prides itself in the manner in which it is able to connect with industry and make companies part of the learning experience of its students through formal and informal structures. "We have a network of 4000+ alumni that is established nationally and abroad … we have formal and informal meetings with companies" (P3.1). "We use formal meetings set up by the institution and informal meetings as a result of personal networks to build our relationship with industry"(P3.3). The engagement with companies can happen through "meetings that are part of the curriculum processes, campus events, or visits to companies" (P3.2). "Our interaction with companies can be very informal through casual conversation or very formal by means of the development of contractual agreements (according to the law in France) for internships" (P3.4).

3.4.1. Corporate Relations Office

The institution has a formal department that takes care of industry engagement called the Corporate Relations office. This department oversees and develops the relationship at HEI3 level for all its industry partners ranging from recruitment, participation in the curricular activities, being part of innovative projects with HEI3, financial support schemes and enrolment in courses of the institution (PD3.1). The former three are arguably the activities that are most related to the development of employability of the majority of graduates at HEI3, nevertheless, the

latter two are also directly related to employability but perhaps targeting a more

selected group of students. The success in establishing strong industry relations is

based on a spirit of win-win relationships (P3.3, P 3.4) whereby the institution is able

to align its curriculum with the state of the art in the technology and IT sector,

enhance its curriculum in terms of authenticity and build a highly effective network

for employment for its learners. "We go to meetings with companies in order to

establish a relationship that is win-win. We try to get them involved with HEI3 and

invite them to campus to address our students" (P3.4) The industry partners benefit

from the relationship by means of having various opportunities to engage with the

upcoming talent in their field in various professional or entrepreneurial contexts,

familiarize themselves with potential talents, ear mark them, present them with job

offers before they hit the job market and build their company and employer brand

through association and CSR related activities.

Recruitment

As indicated in previous sections, HEI3 prides itself on its destination

data but this is surely not left to chance. The institution puts strong emphasis on its

recruitment relation with industry and has managed to position itself over the years as

an institution of choice for employers. "We function as a de facto hiring mechanism

for certain companies … industry knows what our students can do and how they

think" (P3.1). The larger and more established players in the industry seem to have

solidified recruitment relationships with HEI3, leaving the institutional proactive

focus on the smaller companies of interest. "Large companies come to us, but the

smaller companies of interest we have to approach ourselves" (P3.4). "We align

ourselves with companies that share our way of thinking … there are some

companies we want to work with and certain (companies) we do not want to work with based on values" (P3.2).

The benefit of an almost privileged feeder mechanism of young talent for companies is returned to HEI3 by means of participation in the Access Campus Programme. This program concerns participation in recruitment events on campus, hold targeted events to students on campus, offering internships and apprenticeships, sponsoring a class in one of the programmes offered and becoming part of the jobteaser.com network. "Our relationship with companies allows them to interact closely with our students and this helps them to earmark talent and hire them" (P3.2). "Companies participate very often in the many activities we hold on campus" (P3.3). "As part of the E-campus system, companies can log on, find and view the profiles of the students which helps them to screen for internships and identify future talent" (P3.4). The largest type of formal engagement by companies in HEI3's transformation process concerns their role in the mandatory internships which in many cases leads to a job before graduation. "It is highly common that hires occur on the back of the internships" (P3.1) and this is not surprising considering a 70% employment before graduation statistic (PD3.1). The high participation of companies in events organized on campus that relate to employability can furthermore be seen as effectively highly conducive to the employability development of HEI3's learners. "We organize four career forums per year in which around 40 companies participate in each forum" (P3.4). The use of companies to sponsor classes of particular programmes is a longer standing commitment by industry partners whereby they follow a certain cohort of a programme throughout their years of study and provide them "targeted support such as internships, case studies and employment opportunities " (P3.4). Examples of such

strategic partners are explicitly mentioned on the website inclusive of the time they supported the programme. The companies are in majority large players in the industry of Technology (PD 3.1).

<p style="text-align:center">Participation in curricular activities</p>

HEI3 invites industry to become part of its curricular activities by means of "holding classes on our courses, becoming a member of the selection board for future students or by collaborating on the Advisory Board or Steering Committees."(PD3.1).

The involvement of industry in the selection of prospective students is not supported by any information apart from an 'under construction page' on the website and was not identified by any of the key informants as a practice of industry involvement.

The use of industry in a consultative capacity through the institution's advisory board and the Major specific steering committees (P3.1-4) follows good practice in HE in order to assure the institution's fitness for purpose in particular its curricular alignment (D3.1). "We try to get input from big and small companies …Employers tell us what they want –but we must be vigilant that we do not get trapped with short term company specific requirements"(P3.2). This relationship with companies through both consultative mechanism helps to "bring more authenticity to the programmes in the form of internships or other types of learning experiences that reflect what is going on in industry"(P3.3) and "they support international and national placements for authentic learning activities" (P3.1). The advisory board is more strategic in nature, whereas the steering committees are far more field and course specific. The advisory committee has the purpose of being "the main contact of

the school's management committee in terms of strategy, alliances, international development, research themes, and educational projects of medium and long term. It gives advice on the quality assurance, the international accreditation achievement process and is also a high-level structure overseeing the major market trends, the evolution of the corporate environment and the skills expected from the graduates" (PD 3.1). The board consists of executive and managerial positions from companies in the school's targeted field such as Google, BNP Paribas, Alcatel-Lucent, Deloite and Orange as well as other partners such as the University of Strathclyde Glasgow (PD 3.1). "They give us insight in what is required and what makes sense for the future" (P3.1). "The companies also give us feedback on our graduates and in general on our image in the market" (P3.2)." They share objectives around recruitment and trends of desired profiles"(P3.4). The steering committees are much more programme specific and give particular information around the Majors that the programme addresses. "Experts from small and large companies meet on a yearly basis to review programmes … they give us feedback on our programme about its content and what jobs there are at the end …" (P3.3). This shows not only the involvement of the companies at a strategic, big picture level, but also its involvement in the design and development of the programme through formal consultative mechanisms for quality control "that are led by the professor in charge of the course" (P3.3). In terms of quality assurance the institution also holds more targeted meetings with its corporate partners whereby "for AOL we have conversations with companies in order to come up with endorsements to our programme from industry" (P3.1).

The institution has decided to approach its engagement with industry around consultations through a 'corporate day' to be more efficient and effective in

building, maintaining and capitalizing on corporate relations. "We have a corporate day in which we interact and engage with companies to show them how we work together … helps us to show the place of companies in our programmes and in what we do" (P3.2). "The corporate day aims to have many companies to come to our campus and we address them around what we do, how we use them, where they can be of help etc. Thisconsists of general sessions and sessions that are discipline focused. (e.g. steering committees). This day also allows us to show them how we can help them (e.g. research or consulting work)" (P3.3).

A third type of involvement in curricular activities is the corporate involvement in the delivery of the programme through the inclusion of professionals in the faculty on an adjunct basis to deliver courses and the provision of authentic learning opportunities for HEI3 students such as WIL or experiential learning, but also projects in other courses of the programmes (P3.1-4). The involvement of industry in curriculum delivery is highly appreciated by the institution in terms of its contribution to employability development since it provides the "reality of the work place in the programme" (P3.3). "Part-timers are key to the development of employability of students"(P3.1). "Companies form a formal part of our authentic learning experience … and they provide us with potential adjunct faculty" (P3.3). This means that not only they bring content and reality of the workplace to the programme, but are also involved in formal evaluation of the graduates, indirectly or even directly to the standard of the corporate world. "Our learners have a good understanding of what the industry is like (where) they will be working and have some actual industry experience before they finish their degree … Industry is a formal part of the evaluation of our graduates (internships but sometimes other projects)

which, if this (evaluation) is good, gives assurance we are doing the right job" (P3.1).

The early involvement of companies in the programme through internships or other

authentic learning experiences of course requires careful management by HEI3

around the expectations of its corporate partners. "Our partners are aware of risks and

demands - especially in the first year internship - they know they are getting 'novices'"

(P3.4). Through the collaboration with industry the Career and Internship Center is

able to offer its learners not only the opportunity to secure a meaningful internship,

but they deliver a wide array of support services in conjunction with industry to

develop career competencies (as addressed above). "Companies are often involved in

running workshops on campus or company led presentations that at times can count

against curricular credits (elective and compulsory)" (P3.4).

Innovation at HEI3

As "Innovation is at the heart of everything the Télécom Ecole de

Management does" (PD3.1) it displays various research topics of its teaching-research

staff on the website and proudly showcases its ETOILE facility and its on-campus

incubator (O3.1). This supports the entrepreneurial and innovative spirit of the HEI3

students and gives them the opportunity to be part of a start-up or the search for

groundbreaking innovationwhich are all for part of the constant search for alignment

with the 21st Century trends. Such endeavours are ambitious and therefore the

corporate connections of HEI3 are highly leveraged in order to realize this type of

operations. The benefit of this to its learners and the profile it gives the institution in

the HE landscape and in the labour market is certainly not detrimental to the

employability of HEI3's graduates. The institution connects its incubator with its

curricular programme through the yearly interdisciplinary "Challenge Projet

d'Entreprendre" which is typically sponsored by a company, and thereby further intertwines the engagement of industry in its curriculum (P3.3).

Financial Support Schemes

Aside from sponsoring curricular activities, HEI3 further approaches companies from an angle of building their recruitment brand by means of getting involved in financially supporting the institution by means of a taxation scheme for apprenticeships, a Foundation or supporting the promotion of social diversity on campus (PD 3.1). Such financial or other types of support are used to develop the core operations of the institution, which in its very nature supports the development of employability of its graduates. As a public institution with the lowest fees as a Grande Ecole business school in France, it is clear that financial support by the corporate donors is highly valued. The taxation scheme for apprenticeships (a national corporate finance structure) furthermore indicates the recognition of the value of WIL by the public opinion.

Enrollment in courses

A final part of the corporate relations addresses companies enrolling its employees in courses taught at HEI3 (PD 3.1). Even though any of its prorgammes is open to the public, HEI3 has an executive MBA programme that particularly targets the corporate world. In this way it does not only focus on the development and employability of young graduates, but also contributes to the further professional development of professionals in the pursuit of an executive career.

3.5. Theme: Quality Measurement

As is evident from the description of the general context of this case and of each of the above described components of the transformation process, employability

is recognized as a critical strategic competitive advantage and therefore a highly important quality indicator for the school. Bottom line evidence of quality education in an employability context is equated to "whether employers want our graduates, whether the graduates are ready to face the challenges of the 21st Century" (P3.2), "whether our graduates end up in jobs in the field of their study and a successful career path after that"(P3.1), "rankings around employment and remuneration upon graduation and 3 years later" (P3.3) and "having partnerships with the reputable companies" (P3.4).

HEI3 has a series of deliberate choices of action in place at institutional level that it sees as contributing to and safeguarding of the development of employability of its graduates to the level it aspires. In general (Table A-10), these approaches to education for employability concern a strong alignment of HEI3's curriculum to the current state of the art of the industry in which it aspires its graduates to operate as young professionals, the use of highly authentic learning experiences with an appropriate mix of hard and soft skills and the logical sequence inclusive of prerequisite knowledge and skills, compulsory exposure to the workplace and workplace practices throughout learning experience with an intimate involvement of industry in both the delivery and the assessment of the learners, a mandatory international dimension to its learning experience, an interdisciplinary approach in terms of projects, an organic mixing of learners of various disciplines through curricular and extracurricular activities, a strong focus on professional identity and career competencies through various curricular and extra-curricular activities, collection of destination data through third party administrators and engagement in national and international accreditation processes. These approaches are managed and

governed by organizational policies and procedures (D3.1) and - where appropriate -

place the learner at the center of the transformation process.

Instance	Level standardization	Level of practice	Frequency
programme review for quality assurance and industry alignment	institutional	programme	yearly
authenticity, mandatory WIL	institutional	institutional	semester
Internationalization	institutional	institutional	when required
use of external faculty	institutional	institutional	continuous
interdisciplinary approach	institutional	programme	semester
Provision of support services for career competencies	institutional	institutional	continuous
Destination data collection	institutional	external	yearly
accreditation processes	institutional	institutional and programme	when required

Table A-8 HEI3 Employability Measurement Systems

The institution recognizes the need for destination data as fundamental to the development of a quality discourse for its programme, however it also believes that, in order to develop a quality programme, there is need for careful discussion of qualitative nature with its primary stakeholders (i.e. industry and learners) to inform its approach for it to be fit for purpose. "It would be interesting to have more detailed data on our process, but it is too complicated to have separate KPI's split around the development of skills of the graduates … we trust in prerequisite knowledge and skills of our curriculum (inclusive career competencies)"(P3.2). "There is systematic consultation with industry around the curriculum and we also have personal discussions with them when opportunity presents itself" (P3.1). "We run satisfaction surveys with students on our courses and also evaluate the feedback our professors get from them" (P3.2). "The satisfaction surveys provide us quantitative and qualitative information that helps in developing a Quality argument that is particularly effective towards a prospective student audience but is equally a requirement for accreditation" (P3.3).

3.5.1. Measurement systems

Aside from the fundamental practices of quality assurance as required by local and international accreditation agencies, which reflect quality standards at institutional and at programme level (D3.1), the institution relies primarily on external agencies to provide destination data of its graduates in order to understand the effectiveness of its transformation process. "Having externals saying that we are doing a good job is much more objectively than trying to make the argument ourselves" (P3.2). This is particularly the case for the destination side around

employability of its graduates. "We gather employability information from external parties mostly and this happens on a yearly basis" (P3.2). In this regard, in France, the administration by external bodies to evaluate the HE landscape is highly developed in terms of data collection and ranking of HEI's but HEI3 also uses data produced by international institutions such as the Financial Times ranking in order to position itself in the quality discussion (PD3.1). "We use the data from externally administered surveys such as the Conference des Grandes Ecoles and the Financial Times" (P3.1, P3.3). Even though this information is collected on a yearly basis, it seems to be more a matter of compliance and brand building rather than it actively being used in terms of decision making (P3.1). It is however undeniable that the numbers that are presented suggest high delivery on the promise of employability, which in turn would intuitively lead to a rather limited triggering of changes in the approach or the process, which may be construed as non-consideration in decision making. "Employability is a topic of conversation at the senior management level" (P3.2). "Everything we do is for employability" (P3.3).

In terms of the process, the institution has the traditional quality control mechanisms in place such as course review according to quality frameworks of accreditation agencies (D3.1). It however recognizes that this is perhaps not enough in order to be able to effectively articulate and clearly evidence HEI3's process of employability development. "We do not have much data around our process except for AOL and data around the mandatory internships … it would be good to have this but it is complicated" (P3.1. P3.2). The close inclusion of and consultation with industry is presented as a fundamental quality control mechanism. "Our alignment with industry is carefully guarded by the consultations with industry … and their

inclusion in assessment … and professors and Deans manage this involvement carefully" (P3.2).

Aside from its institutional mechanisms for quality control from an academic and institutional perspective (D3.1), the most methodical system around the transformation process for employability lies with the Career and Internship Center, which has a carefully documented process around validation of internships which include the collection of professional profiles of all HEI3's learners and a CRM system of all collaborating industry partners. "Our process addresses both legal as academic requirements for internships … it is an automated process that facilitates the validation of internships … which is driven by the learners and involves the company they want to work with, the academic supervisor involved and the career center … resulting in a contract between the company and the students once all legal and academic requirements are met" (P3.4). Even though this process is facilitated through an online system on the e-campus platform and feeds into a CRM system that is managed by the Career and Internship Center, there seems to be rather little data that is systematically extracted to inform the effectiveness of the process or the evolution of the WIL part of the transformation process. "The system holds a lot of data around domains and companies where our internships are held (including internationalization), the profiles of students that enter this part of the curriculum, the types of internships they participate in and whether the internship was found through our system or through an outside system … this information is not really being used beyond reporting of some very basic information around domains of internships to the academic departments of concern … but we do take note in our CRM system of

companies where the experience has not been beneficial for the learner and we have a formal process we follow in case of issues during internships" (P3.4).

In terms of sustainability in terms of quality assurance the institution should be vigilant for the danger of weakening attention to the maintenance of quality labels such as International accreditation after attainment. Not only are they valuable additions to the employability of its graduates by association with such quality labels, but at the same time do such accreditation labels "assume a spirit and practice of continuous improvement … and this is certainly not what is used to be at the time of attainment of accreditation … employability in accreditation contexts depends on the accreditation framework … typically this revolves around destination data, AOL and for some the requirement of provision of support services around career … currently the analysis does not happen, it ends with the presentation of information" (P3.1).

3.5.2. Data

As presented in Table A-11, the data that is collected by the institution varies between qualitative and quantitative data, is of various nature in terms of granularity and is mostly used either for marketing purposes or as a progression confirmation towards degree award. "A lot of the information around employability and our system (that) we collect ourselves is qualitative since it concerns interactions with all stakeholders and discussions around what is needed, what works and what can be done, but numbers are important too, those we get from external parties" (P3.3). "We have information around hiring from national surveys and some qualitative data through personal contacts or formal evaluation processes such as consultations … by reading reports, speaking to faculty and speaking to companies"

(P3.1). "We have qualitative data from the steering committees and quantitative data from assessments our students take" (P3.2).

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
AOL	qualitative	yes	medium	yes	accreditation
internationalization requirement	quantitative	yes	low	yes	awarding degree
validated internship	qualitative	yes	medium	yes	awarding degree
employment in the field	quantitative	yes	medium	yes	communication
salary upon hire	quantitative	yes	medium	yes	communication
salary after 3 years	quantitative	yes	medium	yes	communication
impressions of graduates by companies	qualitative	to some extent	low	yes	for curriculum evaluation
WOM from alumni	qualitative	no	unknown	no	
accreditation attainment	quantitative	yes	low	yes	communication
non academic endorsements	qualitative	no	unknown	no	

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
satisfaction of the learners	mixed	yes	low	yes	little evaluation around employability
alignment with industry	qualitative	yes	high	yes	curriculum design and development
Inter-disciplinarily	quantitative	no	no	yes	is given support
brand of the school	qualitative	no	low	yes	marketing activities
employment before graduation	quantitative	yes	low	yes	corporate relations
course quality review	qualitative	yes	unknown	yes	course design and development
rankings	quantitative	yes	low	yes	institutional practice
success stories	qualitative	no	high	yes	marketing activities
student profiles	qualitative	yes	high	no	
legal requirements	mixed	yes	low	yes	validation of internship
academic requirements of internship	mixed	yes	high	yes	validation of internship

Metric / Topic	Data Type	Systematic collection	Level of granularity	Used in decision making	Note
provision of the service	quantitative	yes	low	yes	graduation requirement
industry engagement	quantitative	yes	low	yes	CRM
Useful alumni	qualitative	no	high	yes	CRM
Understanding recruitment	qualitative	yes	high	yes	support service provision
Usefulness of internships	qualitative	no	low	yes	formal learner evaluation
mediation of internships in case issues	qualitative	yes	low	yes	CRM and continuation
quality of students going into the internships	mixed	Yes – however much clearer when the learners visit the center	medium	yes	validation of internship
Desired industry partners	mixed	yes	low	yes	validation of internship

Table A-9 HEI3 Employability Measurement Data

The communication of such data to external stakeholders happens mostly through reports in cases of accreditation requirements (P3.2), through the website when its purpose is to do image building towards prospective students or other stakeholders (PD3.1) or through brochures to prospective students in more direct recruitment campaigns (P3.3). Data that is relevant for internal stakeholders is either disseminated through reports, via meetings between the concerned parties (P3.1-4) or via online channels (inclusive social media), posters or tv screens in case it is directed towards the current student body (P3.3).

In general there seems to be rather limited attention around the process of knowledge flow concerning employability as a goal of the transformation process which may require some attention in order to optimize the process, identify the strengths, and capture and sustain the effective practice currently in place. "The flow of information is quite artisan, a better system would be good. We give when we are asked and we get when we ask. There is nothing formally in place at the moment" (P3.3). "We do not share good practice around employability through the organization" (P3.1). "It would be good if we had less paperwork and more automated systems to get information to flow between all departments … " (P3.4).

APPENDIX 6 Blank Consultation Document Delphi Round 1

Dear Expert Participant,

First of all I would like to express my sincerest gratitude on your willingness to participate in this expert consultation. You are one of 7 experts that are being presented with a series of questions around a model that I am proposing for diagnosing a Higher Education Institution's process towards the goal of employability of its learners.

This consultation concerns your critical evaluation of a variety of aspects of the model in question. The input from all experts participating in this consultation will be consolidated by an administrator and inform the eventual proposal of a validated model on the basis of a variety of consensus criteria. The total consultation aims to be concluded after 2- 3 rounds (max 4) and is projected to be completed by maximum the middle of June 2016. Each round will have a specific set of elements of the model for you to evaluate according to the instruction given.

To remind you of the context of the study I have prepared a one page abstract that summarizes the study in a very concise manner followed by some opening notes in order to present some initial considerations before moving forward.

When answering the questions, please feel free to elaborate as much as you feel comfortable with in order to give me a rich picture of your considerations. At the same time, I am conscious of your busy schedules and am not expecting you to go into strenuous detail on each of the questions.

Once again, thank you very much for your participation in this consultation session. Should you require any more information, please do not hesitate to contact me as soon as possible in order to be able to meet the set deadline.

Most Respectful Regards,

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Abstract of the Study

In light of the new economic and societal realities of the 21st Century against the backdrop of the emergence of the knowledge economy and the knowledge society, employability has become a major item on the national and supranational political agenda around the world. Additionally, economic and societal trends of globalization, increased mobility of labour and increased access to education have resulted in changed career perspectives whereby the onus has shifted to the individual in terms of career management. The emergence of the knowledge economy in particular has re-ignited a debate that has been latent since the 60's around how well Higher Education Institutions deliver on their contribution to the development of the human capital required for societal and economic progress. Even though acknowledged as an issue for decades, the gap between the current labour market requirements and the profile of new graduates that enter the world of work seems to remain a topic of discussion. The construct of employability has evolved over the last few decades whereby extensive studies on the topic have illuminated its highly complex, relative and continuously evolving nature. Up to date however, the construct still suffers from

ambiguity around what it is; hence complicating the development of effective Higher Education approaches to address it. For this study the construct of employability will be holistically approached by considering three influencing factors of intrinsic, extrinsic and actionable nature. Furthermore, five themes of activities in Higher Education Institutions have been identified to hold strong potential to effectively address employability: curriculum, support services, employer engagement, quality measurement and leadership. The holistic conceptualization and the five themes will form the basis of this study's search for clarity around how employability can be addressed effectively in a Higher Education context and how this can be evaluated. Following a Design Science research methodology, through a qualitative study of three purposefully sampled case studies, extensive literature review and a Delphi Technique, this study outlines the development towards the final proposal of the Employability Development and Assessment Maturity Model (EDAMM) as a validated diagnostic mechanism to evaluate a Higher Education Institution in its fitness for purpose in terms of employability.

Opening Considerations and Perspectives

By **Higher Education Institutions** we refer to the broad concept of further education after secondary school ranging typically from vocational training to the more purist academic education resulting in a formal sense of certificate, diploma or degree. The study further views a higher educational offering as a developmental value chain in which the learner participates and which consists of a variety of activities and elements that contribute towards transforming the learners from entry level learner to (more) employable graduate.

By **Employability**, this study adopts the following notion: Employability is a construct that has evolved over time in terms of how it has informed its relevant stakeholders. The most contemporarily appropriate perspective places the individual central to the construct yet is highly cognizant of the wider context with which the individual interacts and is, due to this contextual sensitivity, to be appreciated as relative and subjective. The literature offers a variety of models and frameworks that attempt to unpack and illuminate the construct in light of its influencing factors which, when aggregated, show employability to be a multidimensional construct that can be broken down into three main influencing factors (i.e. intrinsic, extrinsic and actionable factors) that are composite, causal and interdependent in nature. Commonly identified influencing factors in all approaches to elaborate the construct of employability are mainly intrinsic in nature whereas actionable and extrinsic factors are neither always included nor extensively unpacked. Overall however, there is agreement that investment in both human and social capital through education, building experience and networking prove to be the pathway towards building one's employability. On the one hand social capital works as an

enabler for the individual to engage with the market or other opportunities to enhance employability and on the other hand human capital operates as a frame of reference used by individuals and employers to evaluate the current or potential employee's fit for purpose. In conclusion, in light of this study, the construct will be operationalized from a holistic perspective with strong consideration to cognitive, psychological, actionable and contextual dimensions as follows:

"Employability concerns the possession of a variety of competencies that enable an individual to be of productive value for themselves, the economy and society at large within an interactive context in which a variety of stakeholders participate. Employability is a relative construct that involves proactivity and adaptability to continuously position and reposition oneself in alignment with the dynamic demands of personal, economic and societal spheres. Aside from an intrinsic and extrinsic dimension, employability fundamentally includes an actionable component through the recognition of and engagement with opportunity and a positive disposition towards life-long learning to so continuously build human and social capital ultimately resulting in a person's ability to be value adding and responsive to a wide variety of individual and situational contexts with the eye on personal growth and professional success."

CONSULTATION ROUND 1

    In this consultation round you are kindly asked to:

    1. Score the appropriateness of Maturity Modeling for diagnosis of HEI's approach to employability. (Section 1**)**

    2. Rank 5 process descriptions in terms of their level of sophistication. (Section 2**)**

    3. Score the dimension of the model for appropriateness and justify the score if required. Suggest potentially missing dimensions. (Section 3**)**

    4. Score the criteria that make up the dimensions of the model for appropriateness and justify the score if required. Suggest potentially missing criteria per dimension. (Section 4**)**

    5. Overall additional comments (Section 5**)**

1. General Description of the Approach of Maturity Modeling towards the Diagnosis of a HEI's address of employability.

Viewing the HEI's offering as a transformation process from entry level learner to (more) employable graduate, this study aims to present a mechanism that will allow the diagnosis of this process and start a possible conversation towards improvement.

Maturity modeling is an approach to both representation and diagnosis of a process. A maturity model is typically represented in the form of a matrix that describes types of activity that make up a process at different levels of sophistication (i.e. maturity). The perspective towards maturity that is taken for this study is performance-oriented, meaning that the designer of this model believes that higher performance can be achieved by conscious dedication and commitment towards the development of a process. The designer however appreciates the realities of constraints that context may present towards this, this however falls beyond the scope of this modeling process.

Firstly, the process is unpacked by means of identifying the fundamental activities or components (referred to as dimensions in the MM literature) that make up the process. These activities or components are then again unpacked to key-indicators (referred to as criteria in the MM literature) of that activity or component. On the basis of this breakdown, the process can then be described to a level of detail that is deemed appropriate. Secondly, to recognize the variety of sophistication of a process (i.e. how good an entity is at doing something), the process is then described at different levels (i.e. levels of maturity) resulting typically in descriptions of 4 – 5

levels of maturity whereby each level

has a fundamental element of

demarcation that shows a clear

distinction in process development.

Through either self-assessment or expert assessment, an organization's

process can then be diagnosed by assigning the most appropriate description that

reflects its performance, allowing an overview of how mature the organization is at

realizing the process in question, and indicating possible pathways towards higher

levels of maturity.

Rating of appropriateness of this concept to evaluate the address of HEI's to

employability:

Highly inappropriate (1)   (2)   (3)   (4) Highly appropriate

Kindly use the box below to provide initial comments on the concept of using

maturity modeling to evaluate the address of HEI's to employability:

Maturity Levels		Dimensions					
		1			2		
		Criteria					
		X	Y	Z			
1	LOW MATURITY	✖		✖			
2			✖				
3					✖	✖	
4							✖
5	HIGH MATURITY						

2. Initial overall levels of Process sophistication (i.e. Maturity).

Kindly **rank the following overall descriptions** of approaches to addressing employability **from least sophisticated (1) to most sophisticated (5)**.

Description	Rank
The HEI acts on the idea of realizing employability through a formal plan of strategic nature that outlines deliberate and purposeful curricular and support activities on the basis of researched effective practice. The institution shows formal commitment to the realization of employability. Employability is institutionally defined, is considered part of the organizational culture but its realization happens in siloed approaches with minimal interaction between different departments (administrative and academic or core and support) that does not go beyond reporting on performance to senior management. Priority is given to the formal curriculum; however support services are actively engaged with stakeholders in an organized manner with priority going to student support. Industry is actively involved in both curricular and support activities at various levels of invasiveness. Systematic quality measurement systems are in place. Leadership strongly endorses and supports ideas on employability and formally includes it as a decision making criteria where applicable.	

Description	Rank
The HEI has highly effective practices in place to tackle employability throughout the whole institution, sets the benchmark for the transformation process to employable graduates in its field and acts as a role model for other HEI's. All relevant departments provide regular input to one another for informed action through an informed information and knowledge sharing mechanism building on a continuously growing body of institutional research. The institution continuously fine tunes its practices through strong synergetic interaction of and engagement with internal and external stakeholders. The transformation process is highly agile and operates on the basis of future labour market intelligence, institutional research and integration of cutting edge industry practice in its curricular activities. Support services and industry relations are highly effective in interfacing between the core activity of the HEI and the relevant external stakeholders to enable relevant knowledge and information flows. The institution's impact on and network in industry and society is highly meaningful and reputable, making the HEI the partner of first choice for all stakeholders.	

Description	Rank
The HEI espouses the idea of creating employable graduates conversely but lacks developmental ability and commitment to realization of curricular and support practices deliberately geared towards employability. A strategy around the topic is lacking or lacks commitment towards implementation. Organizational discourse and documentation includes the construct but operationally this is limited to pockets of ad hoc activity at best without any sense of sustainability. Industry relations are cosmetic in nature and its impact on the transformation process does not go beyond promotional discourse and superficial input to inform the HE offering. Basic quality measurement systems are being explored or in pilot phase for part of the institution. Leadership endorses the idea of employability at conceptual level but does not prioritize its support towards development and implementation of clear action plans.	
The HEI focuses on transfer of theoretical knowledge through traditional learning environments, supporting services are underdeveloped and passive, industry relations are non-existent or do not impact the learners' employability, quality is addressed simplistically with minimal improvement plans and leadership does not consider employability a purposeful priority.	

Description	Rank
Good practice around Employability and HE is standard and forms part of the organizational fabric of the HEI. There is a dedicated strategic address around employability that consists of a clearly articulated expectation of participants in the process. There is a formally established collaborative relationship between curriculum, support services, industry and measurement. Curricular practices are highly conducive to employability and interface systematically with support services and industry in terms of design, development, delivery and assessment. Quality control reviews the employability transformation process and findings around effective practice and possible improvements are disseminated to the relevant parties in a systematic manner as part of the institutional quality assurance processes. Leadership puts employability central to its mandate, strategy and decision making by driving best practice development through institutional research and supporting scholarship.	

If desired: Overall comment on the chosen ranking

3. <u>**The EDAMM Dimensions**</u>

The general dimensions are representative of thematic activities or components that capture the processes that are directly related to the realization of the transformation process from entry level student to employable graduate. These emerged from a combination of exhaustive literature review and 3 in depth case studies at institutions that show good practice towards development of employability. The 5 emerged dimensions are: curriculum, support services, industry relations, quality measurement and leadership. This can be viewed as some form of a value chain, whereby curriculum represents the core activity and the other activities are there to complement, govern and enhance its impact on employability and through this form a comprehensive representation of all relevant activities that can take place towards potentially fostering employability in the learners. Kindly score the appropriateness of the proposed dimensions using the scale: **Highly Inappropriate (1)(2)(3)(4) Highly Appropriate** ; and *justify your scoring in case the score is below (3).*

Dimension	Description	Appropriateness score (1-2-3-4)	Justification if score below (3)
Curriculum	all formalized T&L activities in the transformation process		
Support Services	the employability oriented support services that are offered to learners in the institution		
Industry Relations	the mechanisms and invasiveness of industry (including public sector) involvement in the transformation process		

Quality Measurement	the approach to evidencing the impact of the transformation process on employability		
Leadership	the institutional management approach towards addressing employability in the HEI		

Further comments on this section (e.g. suggestion of missing dimensions?)

4. <u>Criteria per Dimension</u>

Each dimension is divided into a series of criteria. The criteria are used as critical and fundamental qualifiers for the thematic activities the dimensions represent. Kindly score each of the criteria with a appropriateness score for its diagnostic value: **Highly Inappropriate *(1)(2)(3)(4)* Highly Appropriate** ; and **justify your scoring in case the score is below *(3).***

4.1.Curriculum Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Curriculum	T&L	T&L practice in terms of its focus on employability		
	Design & Course Sequence	extent to which curriculum design considers employability.		
	Curriculum Development	extent to which curriculum development considers employability		
	Faculty	the constitution of the faculty in relation to its conduciveness to employability of the learners.		
	Outcomes	alignment of learning outcomes with employability factors.		
Additional Suggestions to criteria on Curriculum dimension				

4.2. Support Services Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Support Services	Student Engagement	the level and type of engagement of learners in support services		
	Organization & Orchestration	institutional approach towards support services in terms of organizing, structure and integration with other activities		
	Staff	the expertise of the staff involved		
	Bridge to labour market	the ability of support services to be a conduit towards employment opportunities for graduates		
Additional Suggestions to criteria on Support Services dimension				

4.3.<u>Industry Relations Criteria</u>

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Industry Relations	Approach	the institutional mechanism(s) in place to develop and maintain industry relations		
	Form of relation	the nature of the relationship between the HEI and its industry partners		
	Result / Benefit for the HEI	the benefits and results for the HEI that are the outcomes of the relationship with industry		
Additional Suggestions to criteria on Industry Relation dimension				

4.4.<u>Quality Measurement Criteria</u>

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Quality Measurement	Data	the type of data on employability used		
	Systems	the systems in place to obtain the data		
	Analysis &Reporting	the institutional mechanism to generate information around employability in the HE context and how this is being disseminated		
	Standard & Accreditation	the approach to using a quality standard for its transformation process		
Additional Suggestions to criteria on Quality Measurement dimension				

4.5. Leadership Criteria

	Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score below (3)
Leadership	Institutional Definition	the institutional approach to articulating the concept of employability		
	Overall Strategy	the place of employability in the strategic direction of the institution		
	HR Strategy	the manner in which the human resource strategy supports the agenda of employability		
	Organizational Culture	the level to which employability is embedded in the organizational culture		
	Decision Making	the influence employability as a goal has on decision making		
	Institutional Practice	the form in which management and leadership drives the agenda of employability throughout the whole organization		
Additional Suggestions to criteria on Leadership dimension				

APPENDIX 7 Blank Consultation Document Delphi Round 2

Dear Expert,

Thank you for your input in the first round and your willingness to participate in the second round. This means a lot to me and will help me very much to build and validate my model.

This round is slightly more time consuming than the previous one, and I hope you will find the time to complete the requested from you within the timeframe that I have set out for myself. The aspired deadline for submission of the second round is May 24th.
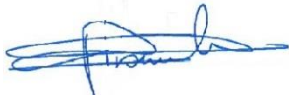
Sections 1 is informative and requires no action from your side, section 2 should not take long as it concerns scoring of only 3 additionally suggested criteria but section 3 is rather elaborate. I suspect this round may take approximately 4 to 5 hours in total to complete, therefore, I suggest that you treat section 3 perhaps subsection by subsection in order to avoid fatigue. Comments are of course encouraged on the basis of your expert position, yet I am cognizant of your busy schedule and realize this limits your ability to elaborate.

Should you require any clarification, please do not hesitate to contact me in person. The third round, in case required, is likely to be very brief. Given the consensus of the previous round, I do not foresee a 4th round to be required.

Once again, I thank you very much for your participation, it really means a lot to me.

Best regards

Philippe Vande Wiele

Phd Candidate

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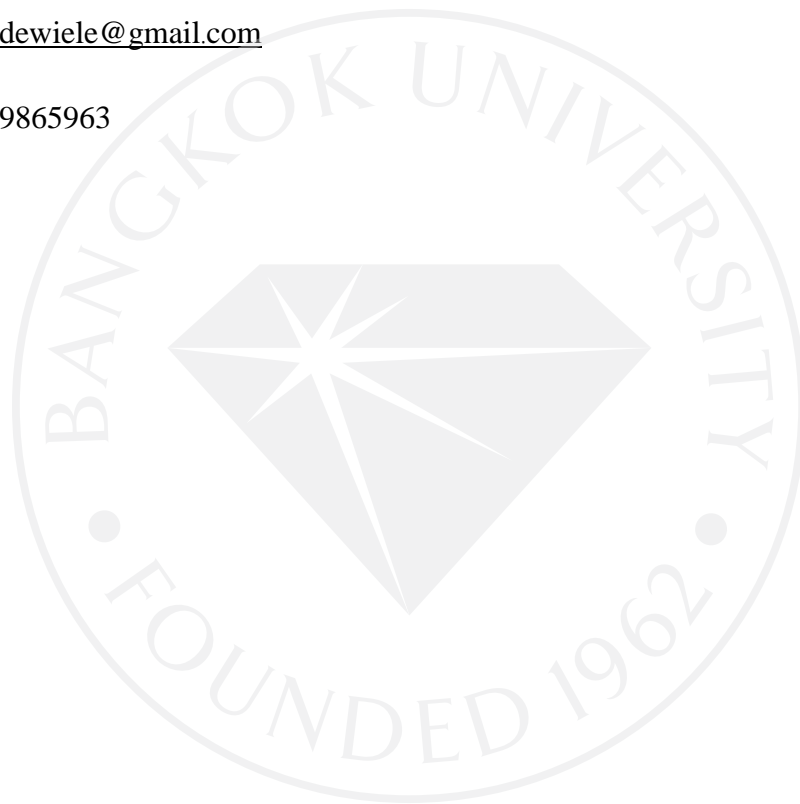
CONSULTATION ROUND 2

6. <u>Section 1</u> **presents a synthesized form of the results reporting of round 1.**

7. <u>Section 2</u> **requires you to rate and comment on the appropriateness of newly suggested criteria that emerged from consultation round 1.**

8. <u>Section 3</u> **concerns, based on the retained dimensions and criteria on the basis of the previous round, the following 2 tasks:**

       a. **the scoring of** <u>**the gradient descriptions**</u> **across the maturity levels of** <u>**each dimension**</u>***and***<u>**each criteria**</u> **of the model for appropriateness,**

       b. **comments and/or suggestions for improvement in case this is felt appropriate.**

9. <u>Section 4</u> **in case you have any comments beyond the tasks you were asked to complete.**

Section 1: RESULTS REPORTING PREVIOUS ROUND

1.1. Opening note around a fundamental perspective to this study:

It was pointed out that, and this should perhaps have been presented more clearly in the introduction of the study, the goal of employability development in learners at HE level is not uncontested in the literature.

The purpose of this study is to provide a diagnostic framework for HEI's that feel the goal of employability is something they aspire OR according to an accreditation framework (be it national or international) are expected to achieve/evidence. The study does not contend to place the aspiration of employability above other perspectives around purposeful HE. The development of the model attempts to offer a practical tool that advances the search for a HE process towards employability development of learners and hopes to be of benefit to those institutions who believe employability to be a goal worthwhile pursuing.

1.2. The ranking of the overall levels of the HEI process towards the development of employability:

The overall statements to describe the gradient sophistication levels on the process a HEI has in place to address employability have been ranked as presented in the Table below. This ranking was achieved with a >70% consensus across all experts and is therefore considered as confirmed. The levels have been labeled for future reference whereby the lowest level of sophistication is termed 'traditional' and the model progresses through 'espoused', 'enacted' and 'integrated' levels to the highest level of sophistication being termed 'optimized'.

Label	Description
Traditional	The HEI focuses on transfer of theoretical knowledge through traditional learning environments, supporting services are underdeveloped and passive, industry relations are non-existent or do not impact the learners' employability, quality is addressed simplistically with minimal improvement plans and leadership does not consider employability a purposeful priority.
Espoused	The HEI espouses the idea of creating employable graduates conversely but lacks developmental ability and commitment to realization of curricular and support practices deliberately geared towards employability. A strategy around the topic is lacking or lacks commitment towards implementation. Organizational discourse and documentation includes the construct but operationally this is limited to pockets of ad hoc activity at best without any sense of sustainability. Industry relations are cosmetic in nature and its impact on the transformation process does not go beyond promotional discourse and superficial input to inform the HE offering. Basic quality measurement systems are being explored or in pilot phase for part of the institution. Leadership endorses the idea of employability at conceptual level but does not prioritize its support towards development and implementation of clear action plans.

Label	Description
Enacted	The HEI acts on the idea of realizing employability through a formal plan of strategic nature that outlines deliberate and purposeful curricular and support activities on the basis of researched effective practice. The institution shows formal commitment to the realization of employability. Employability is institutionally defined, is considered part of the organizational culture but its realization happens in siloed approaches with minimal interaction between different departments (administrative and academic or core and support) that does not go beyond reporting on performance to senior management. Priority is given to the formal curriculum; however support services are actively engaged with stakeholders in an organized manner with priority going to student support. Industry is actively involved in both curricular and support activities at various levels of invasiveness. Systematic quality measurement systems are in place. Leadership strongly endorses and supports ideas on employability and formally includes it as a decision making criteria where applicable.

Label	Description
Integrated	Good practice around Employability and HE is standard and forms part of the organizational fabric of the HEI. There is a dedicated strategic address around employability that consists of a clearly articulated expectation of participants in the process. There is a formally established collaborative relationship between curriculum, support services, industry and measurement. Curricular practices are highly conducive to employability and interface systematically with support services and industry in terms of design, development, delivery and assessment. Quality control reviews the employability transformation process and findings around effective practice and possible improvements are disseminated to the relevant parties in a systematic manner as part of the institutional quality assurance processes. Leadership puts employability central to its mandate, strategy and decision making by driving best practice development through institutional research and supporting scholarship.

Label	Description
Optimized	The HEI has highly effective practices in place to tackle employability throughout the whole institution, sets the benchmark for the transformation process to employable graduates in its field and acts as a role model for other HEI's. All relevant departments provide regular input to one another for informed action through an informed information and knowledge sharing mechanism building on a continuously growing body of institutional research. The institution continuously fine tunes its practices through strong synergetic interaction of and engagement with internal and external stakeholders. The transformation process is highly agile and operates on the basis of future labour market intelligence, institutional research and integration of cutting edge industry practice in its curricular activities. Support services and industry relations are highly effective in interfacing between the core activity of the HEI and the relevant external stakeholders to enable relevant knowledge and information flows. The institution's impact on and network in industry and society is highly meaningful and reputable, making the HEI the partner of first choice for all stakeholders.

1.3. Results of the scoring of dimensions and criteria.

All dimensions and their criteria were found appropriate by more than 70% of the experts consulted. This means that each of the dimensions and its criteria were scored as appropriate or highly appropriate by >70% of the experts consulted.

Dimension	appropriateness consensus after round 1	Criteria	appropriateness consensus after round 1
Curriculum	100%	T&L	88%
		Design & Course Sequence	100%
		Curriculum Development	100%
		Faculty	75%
		Outcomes	100%
Support Services	75%	student engagement	100%
		organization and orchestration	88%
		staff	100%
		bridge to labour market	100%
Industry Relations	75%	Approach	100%
		form of relation	100%
		result / benefit for the HEI	100%

Dimension	appropriateness consensus after round 1	Criteria	appropriateness consensus after round 1
Quality Measurement	100%	data	100%
		systems	100%
		analysis and reporting	100%
		Standard & Accreditation	75%
Leadership	100%	Institutional definition	100%
		strategy overall	100%
		HR strategy	88%
		Organizational Culture	88%
		decision making	88%
		Institutional practice	100%

No further dimensions were suggested to be added.

Section 2: Additionally suggested criteria based on round 1

The following criteria were suggested to be added and is therefore presented for appropriateness scoring to the expert panel in this round. Other suggestions and comment have been included in the gradient descriptions of dimensions and criteria as will be evident in section 3 of this consultation.

Kindly score the following criteria with a appropriateness score for its diagnostic value in the context of this study: **Highly Inappropriate (1) (2) (3) (4) Highly Appropriate**; and **justify your scoring in case the score is below (3).**

Suggested Criteria	Description	Appropriateness Score (1-2-3-4)	Justification if score <3
Consideration of students with Learning difficulties	The ability of the HEI to address learning difficulties in a context of developing employability		
Student welfare/happiness	The manner in which learners evaluate their overall experience at the HEI.		
Relationship between HEI and the wider community	The concerns engagement of the institution in community projects.		

Section 3: Gradient descriptions of dimensions and criteria across maturity levels.

In this section you are presented with gradient descriptions from 'Traditional' to 'Optimized' level of the elements that make up the model (Dimensions and Criteria).

For each subsection you are kindly asked to:

1. overall score the gradient description of the dimension for appropriateness following the same appropriateness score as before**: Highly Inappropriate (1) (2) (3) (4) Highly appropriate**. Kindly HIGHLIGHT the chosen rating in yellow. Kindly comment in case your scoring is <(3). The score you are asked to give concerns **the total gradient across the 5 levels, not each description separately**. The purpose of this gradient description is to present a reasonable range of practice going from simple to highly sophisticated in the context of addressing employability following the perspective this study assumes.

2. Score the gradient descriptions of each of the criteria that make up the dimension of that subsection for appropriateness scoring: **Highly Inappropriate (1) (2) (3) (4) Highly appropriate**. Kindly HIGHLIGHT the chosen rating in yellow. Kindly comment in case your scoring is <(3). The score you are asked to give concerns **the total gradient across the 5 levels, not each description separately**. The purpose of this gradient description is to present a reasonable range of practice going from simple to highly sophisticated in the context of addressing employability following the perspective this study assumes.

Subsection 3.1. Dimension*:* Curriculum

Dimension-level gradient statement

Traditional	Espoused	Enacted	Integrated	Optimized
A theory dense curriculum that is delivered and developed by pure academics in the field through tutor centered mechanisms that focus on theory acquisition. Program design and development does not consider employability factors beyond theoretical knowledge.	The curriculum is for its majority focused on theoretical knowledge with some application through low level authentic learning approaches linked to some general abilities in the field of study. The curriculum is generally	The curriculum is student centered and focused on knowledge application. It is realized through learning experiences across a gradient of authenticity by faculty members with considerable industry experience teaching in the later part of the program.	With employability as its central tenet, a wide variety of internal and external stakeholders are involved into the design, development and delivery of the curriculum that aspires to instill general, field specific and career competencies in its learners. The faculty	The curriculum evidences best practice and effectiveness in terms of design, development and delivery for employability towards a highly effective approach of developing life-long learners. The learning environment is transformational and consistently produces well balanced individuals with a holistic set of competencies relevant for the economic and societal realities of today and the future. The curriculum is continuously re-aligned

Traditional	Espoused	Enacted	Integrated	Optimized
	informed by the external environment and designed, delivered and controlled by academics with minor industry experience.	The programs are informed by field specific labor market requirements resulting in curriculum that is oriented towards the development of field or industry specific competencies.	involved in the development and delivery of the program has strong currency with industry practice.	with industry and delivered by a hybrid faculty of cutting edge practitioners/educators with a good sense of career guidance.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment **if score is below 3**				

Dimension: Curriculum

Criteria: Teaching and Learning

Traditional	Espoused	Enacted	Integrated	Optimized
Traditional tutor centered T&L approach with a focus on transferring field specific theoretical knowledge. Assessment is mostly focused on regurgitation of theory through traditional assessment processes. Assessment is done by a theory specialist.	T&L approach is articulated to be student centered in nature inclusive of some broad practices that are conducive to employability. T&L practice that focuses on KSAO's is promoted yet only limitedly practiced across all its facets due to a consistent lack organizational capability and commitment. T&L practice is	T&L approach is clearly outlined in relation to the development of employability by committing to student centered, developmental T&L practices that are conducive to employability. Employability development is given specific attention in course documentation and guides the faculty's action as learning facilitators. Curriculum	T&L practice is highly informed by employability-conducive principles of authenticity, student centeredness, collaborative learning, reflection and activity orientation. Such principles are consistently and systematically applied with contextual consideration and form the fundamental T&L DNA of the institution. The delivery is	T&L practice is highly conducive to employability and operates at the cutting edge of pedagogy and andragogy. The practice is often referred to as a benchmark for national and international practice in HE as it is informed by and continuously refined for

not formally informed by employability-conducive methods or techniques. Employability can be argued to indirectly form part of the assessment criteria in a very general sense at best. This is typically linked to an internship requirement for graduation. Other course assessment is argued to address employability through the mapping of the	delivery is focused on application of knowledge and includes practices of experiential and work integrated learning. Throughout the programme assessment consistently makes direct and indirect links to employability elements in alignment with the institutional definition and framework of employability. Assessment is generally based on the evaluation	transformational and integrates internal and externally relevant partners in terms of employability on a regular basis (e.g. employers, career center, industry relations, …) T&L practice includes a sense of career guidance as part of the developmental approach of early professionals. Assessments are highly authentic throughout the program in alignment with the reality of the future field of employment. Industry expectations form a	the changing nature of the learners and its context. The results of the total battery of assessments are highly indicative of the employability of the evaluated learner. Assessment practice is constantly refined and fine-tuned against the changing requirements of the labour market and future trends

learning outcomes with little specific employability measurement in place and is mainly focused on evidencing 'knowing' theory.	of evidenced outputs of students in context of their field of study. The level of assessment authenticity generally increases as the student progresses through the program.	strong part of the assessment of students' work, inclusive of a formal statement around general employability at the end of the programme. Assessment involves a variety of stakeholders including peers.	of economic and societal development.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**		
Comment if score is below 3			

Dimension: Curriculum

Criteria: Design and Course Sequence

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum design is done in a traditional way by means of a selection of credit bearing courses that comprise in majority of theoretical and fundamental field specific content sequenced according to increasing field specialty. Design is governed by an institutional curriculum unit in collaboration with field specific academics. Changes in course or programme	Curriculum design follows a traditional approach by means of a selected sequence of credit bearing courses inclusive of an internship. The bulk of the courses are set up to include application of knowledge through mainly low level authenticity. Programme learning outcomes are overall related to	The institutional approach to curriculum design considers employability as a principal guide for consideration of T&L approach, types of courses, course sequencing and credit allocation. Curriculum design is guided by requirements of the labour market, is	Employability is the central tenet around which the curriculum is being designed as a result of systematic consultation with a variety of internal and external stakeholders. Institutionally standardized approaches are of the nature of internships, work integrated and problem based learning, apprenticeships, experiential development etc.	The curriculum is built around the presently emerging and future labour market trends through a course structure that is highly responsive to change and enormously impactful around preparing the learner to become a value adding individual in society. Learners are exposed to

design do not formally consider employability related aspects.	general abilities within the field of study. Career pathways are generally identified. Curriculum design is governed by a institutional curriculum unit and realized in collaboration with primarily field specific academic faculty but inclusive of some consideration of environmental information or external stakeholders in an employability context. Changes in course or	competency oriented and aims for progressively higher levels of authenticity throughout the programme. Review of the curriculum includes employability as a primary qualifying factor from a faculty perspective and to some extent from a student perspective.	Curriculum evaluation and review includes internal and external stakeholders' input and requires formal industry endorsement of some kind before going ahead. Institution wide, developmental activities offered by support services are included as elective or mandatory credit bearing components of the programme where appropriate.	both leading trends and high-end niche practice from around the world. The curriculum is co-designed with a variety of relevant stakeholders such as leading employers, high potential startups, recruitment agencies, social entrepreneurs, NGO's etc. Reviews of programmes happens continuously through widening the consultation

	programme design consider employability related aspects in a very general and broad manner at best.			with more partners towards building a programme design that is agile, responsive and proactive to the dynamic context of economic and societal trends.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Curriculum

Criteria: Curriculum Development

Traditional	Espoused	Enacted	Integrated	Optimized
Curriculum Development is governed by field specific academic and teaching team according to traditional academic principles of content density and traditional learning environments and methods. Review considers academic principles in compliance with academic quality assurance mechanisms with little or no consideration for employability factors. Content is	Course development attempts to address employability by mostly low level authentic approaches (e.g. case studies or guest speakers). Course documentation does not make consistent and explicit reference to employability related points of attention. Course review includes basic qualifying factors around	Employability development is a guiding consideration for course development and re-development in terms of content selection and materials and methods in support of delivery and assessment. This is strongly guided by graduate destination and entry level job requirements. Facilitating the	Course development is highly guided by industry practice and career requirements through consultation with internal and external stakeholders. The courses largely integrate work specific topics and applications as well as career notions in its content. The learner's	Courses are developed with the future careers of the learners in mind and consist of content and learning environments that prepare the learners for the current and future workplace, labour market, economy and society. Each course has a clear address towards career and lifelong learning alongside the field specific competencies and soft skills it is addressing. Each course has been

selected by teaching faculty.	employability by mapping course learning outcomes against employability in terms of required KSAO's but is mainly focused on field specific knowledge and some application thereof.	access to an authentic learning environment is the ultimate aim. Lower level courses recognize the importance of theoretical fundamentals and knowledge acquisition in context of the field of study, where higher level courses are increasingly complex and developed in a problem-solution context. Course development and review	development of relevant field specific, general and career related competencies in learners is addressed in the programme through a scaffolded approach. Course and curriculum development includes cross departmental projects where possible and appropriate. Course review includes consultation with support services for	carefully constructed with a clear purpose in the larger transformation process the HEI has in place. Each course is continuously reviewed and informed by best contextualized best practices, data and expectations of the destinations of the graduates. Courses are developed as transformative learning experiences. Course review considers a large variety of external factors alongside

		gives consideration to the course's place in the employability development process.	relevant components.	alignment with internal adjustments that are made in other courses or programmes where relevant.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				
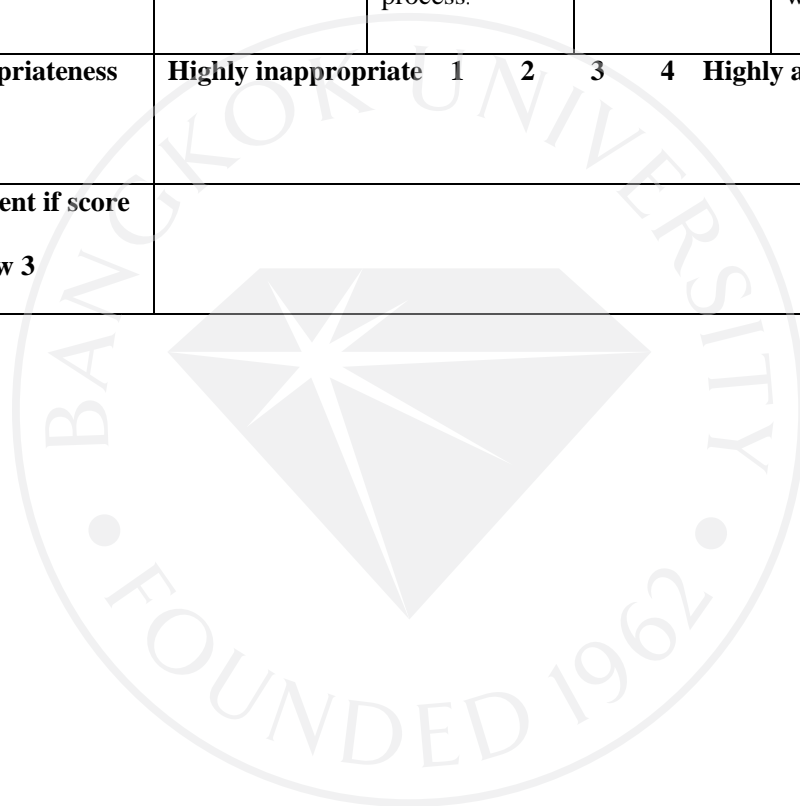
Dimension: Curriculum

Criteria: Faculty

Traditional	Espoused	Enacted	Integrated	Optimized
Pure Academics	Some of the faculty has industry experience but the majority of the faculty consists of academics.	The faculty teaching at the higher level courses consists of individuals with overall relevant industry experience.	Faculty consists of a balance between academics that are active in industry (e.g. applied research or consulting) and contracted industry professionals. Faculty members teaching in majors are professionally certified in their field.	The faculty members are of a hybrid academic/industry nature with very strong business acumen and highly current with the state of the art in industry and professional practice and strong awareness of both local and global economic and societal environments. The faculty has received basic training in career counseling and career management.

Appropriateness Score	Highly inappropriate 1 2 3 4 Highly appropriate
Comment if score is below 3	

Dimension: Curriculum

Criteria: Outcomes

Traditional	Espoused	Enacted	Integrated	Optimized
Course and programme outcomes focus on theory. The profile of the graduate reflects a theoretical specialist in the field with little or no consideration of practical skill or ability to apply knowledge.	Course and programme outcomes strongly reflect knowing but include some concepts of doing. Knowledge acquisition is given priority over knowledge application in most cases. The profile of the graduate reflects a theoretical specialist with some ability to apply the knowledge in	Graduate profiles are competency oriented and have explicit statements on employability in terms of required KSAO's in the field of study. Programme and course outcomes are focused on operating as an entry level professional in the field with some wider organizational acumen. Outcomes	Even though Industry standards and expectations are prioritized in the development of graduate profiles there is a sense of societal values woven within the corporate context. The programme aims to transform learners into young professionals through specific outcomes in relation to	The programme aims to produce well balanced, confident, focused and confident young professionals with strong field specific expertise, a variety of work related experience and a strong sense of personal and professional identity. The profile of the graduate prioritizes personal dispositions around proactivity and

	low level authentic environments.	generally cover field specific notions around knowing, doing and being.	knowing, doing and being. The programme outputs graduates that are in high demand in their field. but also prove to have a positive disposition towards lifelong learning and career management.	lifelong learning alongside highly relevant industry specific and transferable competencies. Graduates are the first choice of employers and typically are offered meaningful positions prior to graduation. Track records of alumni evidence a considerable proportion of high achievers in professional and societal context.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Subsection 3.2. Dimension: Support Services

Dimension-level gradient statement

Traditional	Espoused	Enacted	Integrated	Optimized
Support services are very scarce, understaffed, poorly communicated and typically limited to general and superficial ad hoc activities around careers. Engagement of internal or external stakeholders is low to non-existent and the services contribute at best only minimally to the development of employability.	Support services consist of a series of activities particularly oriented towards employment upon graduation. The activities are not systematically organized or institutionally orchestrated. Engagement of learners is overall limited and the results of the efforts	The institution has a systematic, formally planned approach to a variety of activities supporting employability in place that is realized by a formally trained department. Involvement of external stakeholders (participation or information exchange) is the norm and	Support activities are governed by qualified experts in career services and treated as an integral part of the institutional transformation process for employability. Services are developed and delivered through high involvement of relevant internal and external stakeholders. Engagement of learners is high and the results around career	Support activities are highly aligned and responsive to the economic and societal realities and form part of the knowledge body of the organization around developing employability in the learners. The staff is highly current with recruitment and talent management practices in industry.

	are not overly significant.	results in meaningful opportunities for learners to enhance their employability. Engagement of learners is most common among seniors.	management skills uptake, opportunities for experience and graduate employment are significant.	Engagement of learners is very high and includes co-creation of service value. The results are highly significant in terms of developing very impactful career management skills and facilitating the securing of highly meaningful employment opportunities.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Support Services

Criteria: Student Engagement

Traditional	Espoused	Enacted	Integrated	Optimized
Engagement with/of learners is low.	Engagement with/of learners is mostly limited to communication about the services and some interaction with highly motivated and interested learners.	Engagement with students is prioritized, actively pursued and recorded. Engagement is more common among learners in specialization years or near graduation.	Engagement with students is high due to some form of compulsory interaction with the support services. There is some form of engagement that spans across the total learner body due to relevant services offered.	The majority of learners actively seeks out the services and respond highly positive. Senior learners support junior learners in the development of career competencies.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Support Services

Criteria: Organization and Orchestration

Traditional	Espoused	Enacted	Integrated	Optimized
The institution provides few and ad hoc activities around career support with little or no engagement of internal or external stakeholders.	Support services consists of a series of ad hoc activities in the realm of career support that happen in isolation from one another and from the rest of the institutional activities and departments. Engagement of internal and external stakeholders is not systematic and remains superficial. Communication around the activities is	There is a formal, planned calendar of support activities covering a range of employability related topics. Activities are formally and systematically communicated to internal and external stakeholders with overall reasonable awareness among internal stakeholders. Engagement with	The support activities are delivered in orchestra with the curriculum delivery and sequence as complement to - or through active participation in T&L activities that relate to employability inclusive of consultative collaboration towards design and development.. Some of the support services activities are	Support activities are highly aligned with and responsive to the current trends in the labour market. They advise on general and specialty career competencies and develop tailored career profiles for engaging learners. The units' involvement in the organizational knowledge flow around

	partially effective in terms of awareness of internal stakeholders.	stakeholders is established practice in terms of information exchange but mostly superficial in terms of involvement.	formally set as credit bearing options in the curriculum. Career services office further continues engaging with Alumni in a mutually beneficial relationship. Engagement with internal and external stakeholders is systematic and significant in terms of information exchange and involvement in the realization of the support activities. Support	employability is highly significant particularly in terms of providing detailed, programme specific and highly meaningful inputs around the current and future labour market requirements.

			services unit forms part of the organizational information flow around employability.	
Appropriateness Score	**Highly inappropriate** **1** **2** **3** **4** **Highly appropriate**			
Comment if score is below 3				

Dimension: Support Services

Criteria: staff

Traditional	Espoused	Enacted	Integrated	Optimized
few in number and mostly untrained in career counseling or career management skills	The head of the department has experience in the field, yet assigned staff has limited experience in career counseling.	Assigned staff has undergone formal training for career counseling and career management according to national or international standards. Professional development opportunities are available.	Assigned staff consists of qualified experts in the field of career counseling and career management. Professional development in the field is required, partially supported and forms part of the performance appraisal.	Assigned staff consists of experts in the field of career counseling and career management with a background in professional recruitment. Professional development is part of a systematic HR developmental strategy. Opportunities identified by the staff are supported by the organization. Staff operates as PD facilitators for other HEI's.
Appropriateness Score	**Highly inappropriate** **1** **2** **3** **4** **Highly appropriate**			
Comment if score is below 3				

Dimension: Support Services

Criteria: Bridge to the labour market

Traditional	Espoused	Enacted	Integrated	Optimized
no conducive role	in theory the bridge builder, but in practice the results are not very impactful.	Support activities are institution wide recognized and promoted as the conduit towards the labour market. This takes the form of job fairs, guest speakers, workshops and active alumni. There is limited reporting around placing current students or graduates in employment situations. There are pockets of formally supported specialty activities around entrepreneurship.	Support services effectively secure, communicate, deliver and report on placing graduates and current students in employment situations. Collaboration with industry relations is high under the form or meaningful exchanges of information and network building. There is an institutionally supported center to nurture entrepreneurship.	Support services operate as a secure conduit to employment through a strong network and highly effective mechanism to place current students in employment situations that eventually build towards full time employment in highly meaningful and desired companies and positions. The

				institution has a formal and effective mechanism in place to spin off startups.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				
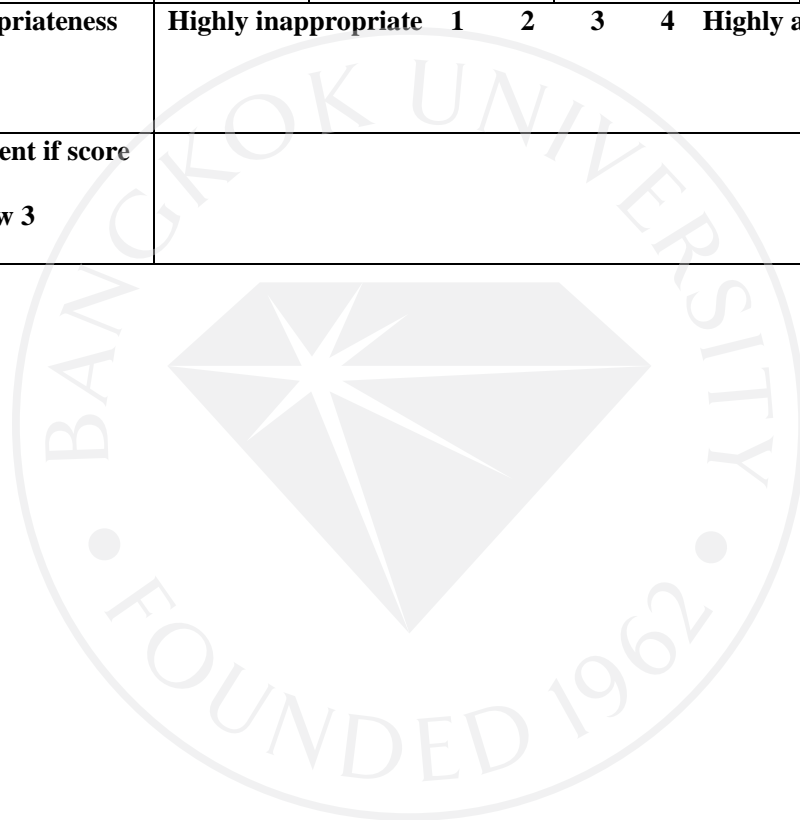
Subsection 3.3. Dimension: Industry Relations

Dimension- level gradient statement

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal or systematic mechanism to the development of Industry relationships because it is not valued as pertinent towards building employability of the graduates. Existing relationships are passive and superficial, providing few insights in the labor market.	Industry relations develop organically at departmental level rather than systematically. The relationships are mainly conversational in nature and serve primarily the institutional rhetoric and PR purposes. The connection with industry only limitedly impacts the approach of the HEI to the development of its overall value offering.	There is an institutional department for industry relations to support the departmental efforts. The relationship is developed as a partnership of information exchange to inform for a meaningful HE value offering with occasionally highly invasive collaboration.	The institution uses a basic relationship management system resulting in synergistic relationships with clear goals and deliverables. Industry is highly involved in strategic and operational aspects of curricular and support activities.	The institution uses a sophisticated knowledge exchange system to manage its industry relations in order to advance a sustained mutually beneficial relationship. Industry becomes the demanding party for collaboration and partnerships, resulting in a leveraged network towards securing support, the creation of

				employability-conducive opportunities and a highly competitive profile in the HE landscape.
Appropriateness Score	**Highly inappropriate**	1	2	3	4	**Highly appropriate**
Comment if score is below 3				
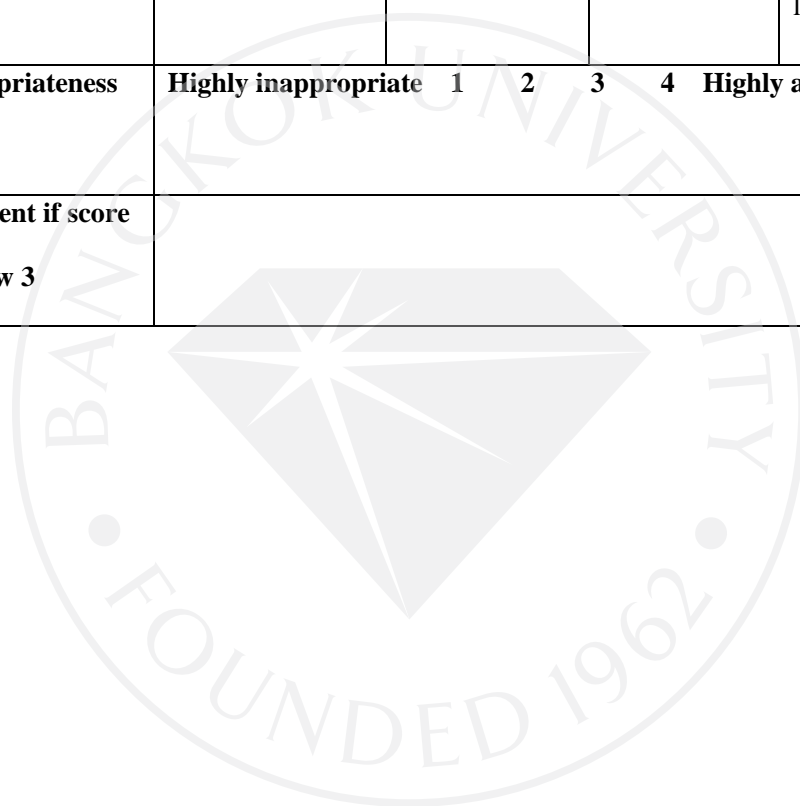
Dimension: Industry Relations

Criteria: Approach

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal approach or structure to engage with industry.	The institution develops relationships with industry through each of the departments in a rather organic manner without a formal approach to institutional network building. Relationship building is ad hoc.	The institution has a formal department that is charged with the development of industry relations. Many meaningful and practical contacts are still developed through informal or personal networks of members outside the industry	The institution has a systematic approach to industry relations by means of departmental contact points that form an internal network that governs the industry relations of the organization. The network is governed by designated account managers and a relationship	The institutional and personal networks of industry relations are intertwined and easily accessible to anyone in the institution through a highly sophisticated relationship management system that allows for the identification of desirable industry relationships on the basis of automated queries and historical interaction. At the same time it captures a sense of desired human capital profiles for each of the organizations.

		relations department.	management system.	
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Industry Relations

Criteria: form of relation

Traditional	Espoused	Enacted	Integrated	Optimized
no or very superficial, passive relationship around informing the HEI about the labour market (and is at best research oriented.)	The relationship is mainly conversational in nature around labour market realities with little significant information exchange. The relationship is largely of PR nature.	The relationship is one of partnerships for information exchange to align the approach of the HEI to the labour market requirements.	Effective, synergistic relationships between the HEI and industry The relationships have clearly identified goals which are reported on throughout the collaboration.	Highly mutually beneficial relationships between the HEI and industry spanning across a variety of areas is developed and sustained (e.g. information and knowledge exchange, financial or other support, operational and strategic collaboration, etc...) The HEI becomes the partner of choice for industry and its relation is seen

				by both as
				symbiotic.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Industry Relations

Criteria: result / benefit for the HEI

Traditional	Espoused	Enacted	Integrated	Optimized
industry relationship is not valued as pertinent towards the goal of employability	The institution mainly capitalizes on the relationships through PR opportunities and superficially towards informing its rhetoric around aligning the value offering of the HEI with the labour market.	Industry provides input for the institutional definition of employability and further refinement of the construct at program level. Enthusiastic industry members get actively involved in supporting curriculum design, development (steering committees) and to a certain extent delivery and assessment (internships, WIL,	Industry involvement in curriculum design & development (inclusive of review), T&L activities and support services is the norm. Detailed labour market intelligence informs strategic considerations for the HEI around programme offerings and support services.	Industry approaches the institution for privileged association and partnerships. The institution can choose its industry partners. The network of the institution offers very high leverage for the HEI towards securing inputs to further strengthen its value offering and towards

		etc.). Industry is engaged with support services.		producing quality outputs through its transformation process. The HEI's has developed a highly competitive profile in the HE landscape through the association with selected industry partners.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Subsection 3.4. Dimension: Quality Measurement

Dimension- level gradient statement

Traditional	Espoused	Enacted	Integrated	Optimized
Quality control around employability is not considered important or beneficial for improvement. It is approached from a compliance perspective using simplistic destination data for reporting purposes.	Quality considerations around employability are predominantly considered by articulating espoused quality against general requirements of the labor market. This is primarily justified through destination data and very general, highly sematic measures in terms of the	Quality in terms of the process is given attention through the identification of measures for quality control. Employability is actively included in the quality management of the curricular practices alongside with some minor consideration that is given to the monitoring of support activities. Analysis and reporting is happening in	Quality around employability development is managed throughout the transformation process in a holistic manner. Detailed data from a comprehensive set of stakeholders is collected and analyzed in an institutionalized systematic way towards monitoring both process and outputs of all relevant activities.	The institution continuously monitors the transformation process for its development of employability against a highly up to date objective of industry and societal measures inclusive of professional accreditation in both industry and educational context. Using highly detailed and comprehensive data, it

	developmental process that is in place. Employability is included in institutional quality discourse but is only sporadically used as a measure or driver for improvement.	various departments in isolation from one another and lacks a systematic approach and institutionalized mechanism to make it feed into a larger plan for improvement.	Reporting results in action plans for quality improvement that fit in an institutional quality improvement plan.	continuously fine-tunes its process and is highly responsive and agile towards economic and societal dynamism. The institution is considered as a high level benchmark in terms of HE and employability.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Quality Measurement

Criteria: Data

Traditional	Espoused	Enacted	Integrated	Optimized
basic demographic, academic and destination data only (simple metrics e.g. employment status before graduation, after graduation, 3 months, salaries)	Basic demographic, academic and destination data, some general labour market information, some general data on the employability development process.	Varied levels of data on the local external environment (economic and labour market), academic transformation process, support activities, learners and graduates: e.g. Comprehensive demographic, academic and destination data with follow up, up to date labour market intelligence, detailed data (qual or quant) on the process of	Comprehensive employability data on the local external environment, institutional transformation process, learners and graduates. Sector specific labour market intelligence according to programmes. Future trends and strategic public policy emphasis in local labour market. Data profiles per learner. Best practice data and	Highly detailed, highly current employability data on local and global external environment, institutional transformation process, learners and graduates. Highly relevant or tailored metrics of labour market requirements and programme specific profiles representative of specific industries and employers.

		employability development, some data on results of the employability development process, formal employer appraisals of learner's work according to institutional assessment frameworks. Curriculum evaluation by students includes a component dedicated to employability.	information on employability and HE.	Detailed process metrics and KPI's reflecting the institutional transformation intention and the reality of the learners' development. Data and information on the state of the art in HE for employability. Detailed career path data on graduates.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Quality Measurement

Criteria: Systems

Traditional	Espoused	Enacted	Integrated	Optimized
Simplistic use of SIS system alongside yearly collection of destination data through phone or online survey.	SIS system alongside yearly destination data collection through phone or online survey, secondary research or superficial consultation with industry on labour market requirements and Isolated efforts of piloting data collection mechanisms concerning the	SIS system, systematic destination data collection and use of semi-systematic data collection mechanisms on the transformation process and labour market requirements.	Systematic employability data collection around environment, process, learners and destination. The institutional transformation process is broken down in metrics or qualifiers through a 360 degree approach that includes internal and external stakeholders.	Systematic, automated and highly regular collection of a comprehensive data set of employability data that are highly relevant to the context of institutional and programme specific practice around employability and HE on the one hand and particular specifics to the HEI in question around environment,

	institutional transformation process.			process, learners and destination. Specialist external partners feed highly reliable and highly significant data to the institution.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Quality Measurement

Criteria: Analysis and Reporting

Traditional	Espoused	Enacted	Integrated	Optimized
Very simplistic analysis for compliance reporting purposes only. Reports are mainly produced on external demand and are generally not used for evaluation, feedback or improvement purposes.	Basic analysis around destination data, qualitative analysis around labour market requirements. Reporting on employability data is not standardized beyond compliance requirements. Findings of analysis and reporting provide limited feedback to internal	Semi systematic employability data analysis and established reporting mechanisms at the level of labour market requirements, destination data, demographic data, academic performance and curricular contributions to employability development. More ad hoc or siloed analysis and reporting of employability	Systematic analysis and reporting of employability data around curricular process, output and context. Semi-Systematic in depth analysis and reporting on employability data around programme or course specific impacts and the total institutional transformation process towards the generation of comprehensive employability profiles per student. On As	Highly in depth analysis and highly tailored reporting of employability data inclusive of comparing up to date contextual, process and destination data, inclusive of the ability to run simulations around context, process and destination. Ability to generate instant snap shots in time around current performance of

	stakeholders and are only sporadically used for evaluation or improvement.	data at the level of program and institutional transformation process without established analysis or reporting mechanisms.	part of the review cycles, gaps between labour market requirements and the HEI's intended/realized outcomes are identified and reported on for improvement. Data and analysis is reported back to relevant stakeholders in a format and granularity relevant to its use. Good practice and poor practice is flagged and respectively celebrated or investigated.	the transformation process in context. Professional development requirements are systematically highlighted and reported at relevant level. Automated or semi-automated suggestions around optimized approaches towards meeting graduate profile requirements. Key external partners are included in the

				performance reporting.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Quality Measurement

Criteria: Standard and Accreditation

Traditional	Espoused	Enacted	Integrated	Optimized
The standard around employability is internally decided in compliance with guidelines of national relevant educational standards in terms of contents that need to be covered and administrative procedures that need to be in place. Employability is seen as a by-product of a quality academic process.	Even though employability is not part of an institutional policy, quality considerations around employability are given some attention in curricular activities. External parties are consulted at the outset of the program to establish an internally generated standard in relation to how the program addresses	Employability is formally recognized as a quality indicator for the overall performance of the HEI yet this is mostly viewed so in terms of curricular activities. Review, validation, quality assurance and accreditation exercises of all programmes include employability as a formal component. Some general quality indicators refer back to the performance of the	The address of the HEI towards employability is holistic in nature and considered as a priority quality indicator for its overall operations. Professional industry standards and industry expectations are formally known and understood for each program. Labour market expectations and realities are understood to benchmark expected outputs	The HEI is constantly fine-tuning its employability address through systematic large and small scale reviews and external validations beyond the required national, international and professional accreditation requirements. The address of the HEI towards employability is often

	employability. There is lack of common understanding by all stakeholders on the topic. The institution complies with the national accreditation guidelines around employability.	curricular activities in the context of employability. The institutional review process addresses the performance of support activities. The institution has formally stated objectives around how the institution aims to address employability. The programmes are aligning with credible and meaningful professional certification bodies.	of supporting activities. Both areas of activities form part of a formal and systematic review process of the institutional approach towards employability with the eye on continuous improvement. The offered programmes are accredited by professional certification bodies. The institution is placed highly rankings that consider employability indicators.	referenced as the field quality benchmark. The institution is committed to exceed the requirements and expectations of industry and the labour market. Each of the offered programs is endorsed by professional accrediting bodies and a wide spectrum of entities in both the private and public sector. Each of the programmes has a variety of

				employability relevant third party recognized achievements. The institution is invited to showcase its practice and engage in professional development for other HEI's either through professional or governmental development programmes.
Appropriateness Score		**Highly inappropriate 1 2 3 4 Highly appropriate**		
Comment if score is below 3				

Subsection 3.5. Dimension*:* Leadership

Dimension- level gradient statement

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have a formally articulated strategic place in the core or supporting activities of the HEI. It is not part of the organizational culture and employability is not seen as a potential competitive advantage.	Employability is recognized as a potential competitive advantage but the institution lacks implementation of strategic discourse. Relevant organizational structures and processes exist but are inactive or ineffective. The organizational culture does not capture the concept of employability beyond semantic	Employability is a formal part of the strategic plan to strengthen the institution's competitiveness and its fit for purpose. The organizational culture reflects commitment and enthusiasm around employability development in pockets of curricular activities, but lacks organization wide buy in. The organization shows	Employability is viewed through a holistic lens and considered a strategic priority. It is institutionally contextualized through the development of action plans for each relevant department whereby decision making is highly driven by cascading employability objectives. Employability is truly part of	Every organizational activity gravitates towards employability development which is considered as the primary purpose of the HEI. The organization has staffed its core and primary supporting activities around employability development with people who are well

	rhetoric. Good practice around employability is suggested but experiences difficulty in terms of uptake or adoption at institutional level.	commitment towards employability as a formal priority through endorsing an institutional approach to employability based on best practice, designated structures and relevant associations with external entities.	the organizational culture and a central tenet in many activities involving internal and external stakeholders. Good practice in context of the construct is considered the norm and best practice is institutionally celebrated.	experienced in realizing employability through HE, resulting in employability being woven into the organizational fabric. The institution drives the cutting edge around employability development through incremental and radical innovation.
Appropriateness Score	Highly inappropriate 1 2 3 4 Highly appropriate			
Comment if score is below 3				

Dimension: Leadership

Criteria: Institutional definition

Traditional	Espoused	Enacted	Integrated	Optimized
There is no formal institutional definition.	There is a formal rhetoric around employability that is primarily based on buzzword semantics.	The definition of employability has primarily national relevance and holds substance that is linked to a larger approach to employability development. The construct is defined with a focus on work readiness.	An institution wide definition of employability is developed in collaboration with external stakeholders and holds relevance to external and internal environment of the HEI. The construct is furthermore broken down into a variety of concepts that allow contextualization across programmes and institutional activities. The definition	The institutional definition of employability is a clear reflection of the well balanced individuals that will be required for the future in both economic and societal context. The definition and the institutional understanding of the construct consistently link with the programme and institutional outcomes. The definition is

			approaches employability from a lens of human capital relevant to the future economy.	holistic and connects ideas such as lifelong learning, career competencies and societal development.
Appropriateness Score	**Highly inappropriate** 1 2 3 4 **Highly appropriate**			
Comment if score is below 3				

Dimension: Leadership

Criteria: Overall Strategy

Traditional	Espoused	Enacted	Integrated	Optimized
Employability does not have an articulated place in the strategy of the organization. It is not considered as a formal objective or purpose of HE. There is no specific set of processes, or policies in place towards this goal.	Employability is recognized as an important point of attention by the institution. It is part of the articulated aspirations of the institution, but lacks strategic implementation. Employability limited to be part of the overarching organizational objectives.	Employability is a formal part of the strategic plan. Employability is actively considered as a competitive advantage for the HEI. The goal is broken down into some sense of sub goals for relevant organizational activities. The organization has a function that carries the formal accountability	The institution places employability high on the strategic agenda and considers its realization a priority. Resources are allocated directly in support of the realization of this goal at institutional and activity specific level. The organization uses results around employability	Employability is the top priority towards which every other activity is geared towards in terms of planning, organization, implementation and evaluation.

		against the goal.	actively as a central topic of conversation to all stakeholders. The institution has actively assigned dedicated resources in the organization to address employability at various levels of the organization and in various activities.	
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Leadership

Criteria: HR strategy

Traditional	Espoused	Enacted	Integrated	Optimized
Recruitment strategy of academic field specialists in line with the programmes and supporting opportunities for professional development to maintain currency in their field.	HR structures that support the organization of support activities with recruitment of generally relevant professional profiles for support activities. Some sense of inclusion of employability in the orientation programme of new staff, mostly geared towards	Employability forms a formal part of the orientation for all relevant activities. Recruitment happens on the basis of profiles that are suitable for the realization of employability through a learning offering that aligns with industry and through support activities that are conducive to employability.	The institution carefully recruits profiles that are suitable for the employability transformation it offers its learners. Job requirements include where relevant formal considerations around employability related factors (e.g. industry experience or professional qualifications). Performance evaluation includes	Professional development activities around currency with the latest trends in HE and employability are institutionalized. Personnel have on average a very well rounded profile that includes all facets of the transformation process with accents in expertise around the specific activity they engage with.

	academic faculty.	Professional development around employability is encouraged and supported.	employability related KPI's for some of the functions. Professional development that enhances the ability of the institution to address employability is prioritized.	
Appropriateness Score	**Highly inappropriate** 1 2 3 4 **Highly appropriate**			
Comment if score is below 3				

Dimension: Leadership

Criteria: Organizational Culture

Traditional	Espoused	Enacted	Integrated	Optimized
The members of the organization do not consider employability as a purpose of HE beyond it being incidental. Employability of learners and the effect of the educational offering is not part of the formal or informal discourse at any level within the organization. Employability supporting projects are not actively championed, nor is employability used in the institutional rhetoric	Employability is part of the formal rhetoric of the organization but does not permeate through the activities the organization undertakes. The construct is at best cosmetically present in the campus environment and is topic of conversation in some isolated instances. The goal of employability, even though	Employability is considered as the purpose of the organization by most of its members and recognized as a potential point of differentiation in the HE landscape. It is actively championed at various levels but in reality is given most attention in curricular activities. It is a topic of formal conversation	Employability is recognized by all organizational members as part of purposeful HE and is embraced at organizational, departmental and individual level. Where relevant, all members of the organization consider the goal of employability consistently in their activities. As part of the formal and	Everything the organization does is first and foremost directed towards developing employability of its learners or towards enhancing the organizational ability to tackle the matter. Knowledge and information around the topic continuously flows through the organization through formal informal communication channels. It is

	articulated at institutional level does not find root in the day to day operations of the organization. Employability is a merely a recurring theme in the institutional rhetoric for both internal and external communication.	around the core activities of the organization and at strategic level but still lacks organization wide buy in. Employability is the central conversation point with external stakeholders. The physical environment shows signs of employability-conducive elements.	informal conversations within and between departments, it is a common ground that forges meaningful and effective information exchange and collaboration between different departments. Learners are highly aware of and engaged in the employability context. The physical environment is purposefully designed to	evident that the whole organizational activity gravitates towards the construct driven by a strong sense of continuous improvement and search for excellence.

			express the value of employability. Employability systematically resonates in institutional rhetoric, decor, activities and collaborations as the number one priority and goal for the HEI.	
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Leadership

Criteria: Decision Making

Traditional	Espoused	Enacted	Integrated	Optimized
Decision making does not consider employability as a qualifying factor for planning, resource allocation or evaluation practice.	Decision making recognizes employability as a qualifying factor for planning, resource allocation and evaluation practice but lacks appropriate mechanisms to do so. Graduate employability is a formalized KPI at institutional level.	Employability is used as a formal indicator in the evaluation of organizational performance both at process and at output level by means of basic processes.	Leadership puts employability central to its activities by considering it as an important evaluative factor for decision making. Projects are evaluated and given support on the basis of their contribution to employability. Evaluation of organizational performance on employability is formalized in department specific KPI's with clear and department	The goal of employability as the highest institutional priority drives all decision making in the organization.

			specific processes in place.	
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**			
Comment if score is below 3				

Dimension: Leadership

Criteria: Institutional Practice

Traditional	Espoused	Enacted	Integrated	Optimized
No benchmarks are used other than destination data. Employability is not seen as a critical factor of distinction.	Management suggests actions around employability to faculty and staff through investigation and evaluation of best practices and developing dialogue towards implementation at appropriate levels.	A standardized approach to employability is endorsed by the institution and benchmarked against good/best practice. Institutional research on employability is formalized through a designated unit and engagement by faculty is incentivized. Association with professional	Good practice is the norm and best practice is celebrated throughout the organization. Institutional research reports on current practices at both programme and institutional level. There is an institutional community of practice that exchanges ideas building a strong body of knowledge around how to tackle employability.	The institution has contextualized best practice and systematically fine-tunes its approach trough continuous incremental innovation of its process. Through close and effective collaboration with all its stakeholders the institution is highly agile and consistently features in the scholarly environment as

		authorities in the various fields of study is expedited.				highly effective and exemplary.
Appropriateness Score	**Highly inappropriate 1 2 3 4 Highly appropriate**					
Comment if score is below 3						
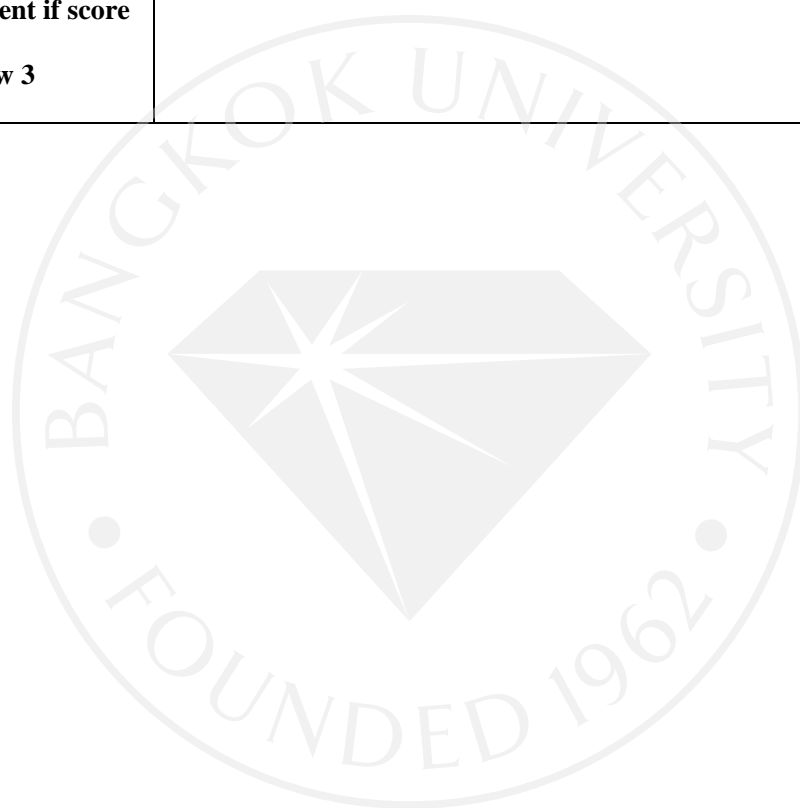
Section 4: General comments

Feel free to add any comments, remarks or recommendations.

Thank you for your participation in this round.

APPENDIX 8 Blank Consultation Document Delphi Round 3

Dear Expert,

Thank you for your input in the second round and your willingness to participate in the third round. On the basis of the results of previous round, I am delighted to announce this third round to be the final round for this consultation. I am very grateful for your continued support and participation.

This round is envisioned to be considerably shorter than the previous rounds. The aspired deadline for submission of the final round is June 21st.

Section 1 is informative and requires no action from your side.

Section 2 is an advancement of the second round and asks you to score three rationales around inclusion of recommendations in the model.

Section 3 asks you to assign weightings to the dimensions and the criteria of the model.

Should you require any clarification, please do not hesitate to contact me in person. Given the consensus over the last 2 rounds, I am quite confident there will be no need for a 4th round.

Once again, I thank you very much for your participation, it really means a lot to me.

Best regards

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CONSULTATION ROUND 3

    10. <u>Section 1</u> **presents a concise summary of the results of round 2**.

    11. <u>Section 2</u> **requires you to rate and comment on the appropriateness of the rationales concerning the inclusion of the newly suggested elements that emerged from consultation round 1 and were scored as appropriate in round 2**.

    12. <u>Section 3</u> **concerns assigning weightings at the level of**:

        a. **Dimensions for the total model**.

        b. **Criteria for each of the dimensions**.

    13. <u>Section 4</u> **gives you an opportunity to express any comments beyond the tasks you were asked to complete and asks you to indicate whether and how you would like to be acknowledged in future events of publication around this consultation**.

Section 1: RESULTS REPORTING PREVIOUS ROUND

1.4.Results of scoring 3 additionally suggested criteria:

Suggested Criteria	Appropriateness score			
	1	2	3	4
Consideration of students with learning difficulties	0%	14%	0%	86%
Student welfare/happiness	0%	0%	43%	57%
Relationship between HEI and the wider community	0%	0%	57%	42%

Each of the three suggestions reached a >70% consensus to be appropriate for inclusion in the model. After careful deliberation it has been decided that these topics will not be considered as separate criteria (in the maturity model sense of the word) but as critical content for the description of some of the existing criteria. The rationale for this decision is outlined in section 2 and is presented for evaluation to the panel.

1.5. Results of the scoring of gradient descriptions at dimension and criteria level:

All gradient descriptions of the dimensions and their criteria were found appropriate (i.e. scored as appropriate or highly appropriate) by > 70% of the experts consulted. Where a dimension OR criteria received a score of 'inappropriate', in all cases a moderated statement was included by the reviewing expert with suggestions to improve. In most cases the expert also stated that the score of inappropriate was assigned to outline the critical nature of the comments, and that consideration of the comments would lead to an appropriate score from the expert's side. The suggestions

have been considered and are being infused in a fine-tuned set of gradient descriptions which will be shared with the expert panel once the model is finalized. Considering the tight time frame, I have chosen however to advance the consultation.

Dimension	appropriateness consensus after round 2	Criteria	appropriateness consensus after round 2
Curriculum	100%	T&L	100%
		Design & Course Sequence	86%
		Curriculum Development	100%
		Faculty	86%
		Outcomes	86%
Support Services	86%	Student engagement	100%
		Organization and orchestration	100%
		Staff	86%
		Bridge to labour market	100%
Industry Relations	100%	Approach	86%
		Form of relation	100%
		Result / benefit for the HEI	86%
Quality Measurement	100%	Data	86%
		Systems	100%
		Analysis and reporting	100%
		Standard & Accreditation	100%

Dimension	appropriateness consensus after round 2	Criteria	appropriateness consensus after round 2
Leadership	100%	Institutional definition	86%
		Strategy overall	100%
		HR strategy	100%
		Organizational Culture	100%
		Decision making	100%
		Institutional practice	100%

Section 2: Rationale for inclusion of the additionally suggested topic instead of treating them as separate criteria.

NOTE: Each of the below rationales are developed in light of the development of a workable diagnostic model. The focus of the evaluation is whether the suggested topics should be advanced as separate criteria OR can be considered as qualifiers of existing criteria within existing dimensions.

Rationale 1: Consideration for students with learning difficulties.

The suggestion of **'Consideration for students with learning difficulties'** has emerged under the 'support services' dimension. Even though it is recognized that there is a connection to curriculum in terms of referral, the true nature of support is arguable designed, developed and delivered by a supporting unit. The focus on employability is key here, whereby the model considers the availability of support services that target employability (and that includes cognitive, functional, procedural, personal and meta-competencies) to be the point of difference between an institution

that claims to develop employability and one that actually acts on this claim (i.e. the difference between espoused level and enacted level of maturity). It must however be pointed out that this component does not intend to address the discussion around 'fair access to' and 'appropriate promise of' HE etc as this is something that concerns institutional philosophy and policy around enrollment requirements. In short, 'consideration for students with learning difficulties' will not be considered as a separate criterion, however the point will be more clearly articulated in the gradient description.

Acceptance score of the above rationale: Strongly Reject   1   2

3   4   Strongly Accept.

<u>**Comments in case the** rationale is scored below 3.</u>

Rationale 2*:* Student Welfare*/*Happiness

The suggestion of **'Student Welfare/Happiness'** has been identified as matter of quality measurement as it is seen as a quality indicator to evaluate the process from a participant's perspective (i.e. the learner as one of the participants in the process). After careful consideration and deliberation, it was decided to use 'student welfare/happiness' as a distinguishing factor between 'espoused' and 'enacted' maturity level of gradient description of the 'data' criteria. In other words, the model will explicitly state this type of data as a differentiator. It is interpreted as a question of type of data that should be collected, rather than having a totally separate mechanism in place to gauge student welfare/happiness. This perspective furthermore links to the true nature of quality control and continuous improvement once the institution reaches a level of integration by 'closing the loop' of quality control. This would therefore primarily impact the way 'Curriculum' and 'Support Services' (the two dimensions that directly interface with the learners) are being deployed at institutional level.

Acceptance score of the above rationale: Strongly Reject   1   2

3   4   Strongly Accept.

Comments in case the rationale is scored below 3.

Rationale 3*:* Relationship between HEI and the wider community

'Relationship between HEI and the wider community'has been included in the gradient statements under 'Curriculum', 'Support Services' and 'Leadership' through reference of external stakeholders. For the former two, further articulation to more precisely identify the type or impact of the relationship with the community is not considered as significantly improving the model. Community engagement is indeed of value in a curriculum that includes social entrepreneurship, sustainable development, cultural and ethical aspects in its curriculum or its support services but the holistic nature of employability however implies this, and therefore would be expected to be progressively included in curriculum design, development, delivery, outcomes and inform support services.

That being said, the situational and context dependency of the employability construct may lead to variable institutional definitions of employability whereby explicit identification of the community as a separate external stakeholder and its consequential need for consideration around curriculum and support services risks to be constraining rather than developmental. For the 'Leadership' dimension however, the importance of 'the relationship with the community' will be more explicitly articulated instead of its current address as 'an external stakeholder' in the criteria 'institutional definition', 'organizational culture' and 'institutional practice'. This will be addressed in the realm of Public Relations towards image building for goodwill within the community.

Acceptance score of the above rationale: Strongly Reject 1   2   3   4

Strongly Accept.

Section 3: Weightings of EDAMM Elements

In order to potentially advance the diagnosis towards priority areas to be addressed, the final stage of evaluation of the model concerns a weighting of the Dimensions and the Criteria that make up those dimensions. Kindly note that the weighting per subsection should always add up to 100%.

SUBSECTION 3.1*: Weigh the dimensions of the model

Kindly distribute an importance weighting of 100% across to the following dimensions with regards to diagnostic value of the Model and subsequent value towards improvement.

Dimension	Assigned weighting (NOTE: the total weighting must add up to 100%)
Curriculum	
Support Services	
Industry Relations	
Quality Measurement	
Leadership	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

SUBSECTION 3.2*: Criteria for Dimension 'Curriculum '

      Kindly distribute an importance weighting of 100% across the following criteria with regards to diagnostic value of the Dimension and subsequent value towards improvement.

5 Criteria	Assigned weighting (NOTE: the total weighting must add up to 100%)
Teaching and Learning	
Design and Course Sequence	
Curriculum Development	
Faculty	
Outcomes	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

SUBSECTION 3.3*: Criteria for Dimension 'Support Services '*

Kindly distribute an importance weighting of 100% across the following criteria with regards to diagnostic value of the Dimension and subsequent value towards improvement.

4 Criteria	Assigned weighting (NOTE: the total weighting must add up to 100%)
Student Engagement	
Organization and Orchestration	
Staff	
Bridge to the Labour Market	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

SUBSECTION 3.4*:* Criteria for Dimension 'Industry Relations '

Kindly distribute an importance weighting of 100% across the following criteria with regards to diagnostic value of the Dimension and subsequent value towards improvement.

3 Criteria	Assigned weighting (NOTE: the total weighting must add up to 100%)
Approach	
Form of the relationship	
Result / Benefit for the HEI	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

SUBSECTION 3.5*:* Criteria for Dimension *'Quality Measurement '*

Kindly distribute an importance weighting of 100% across the following criteria with regards to diagnostic value of the Dimension and subsequent value towards improvement.

4 Criteria	Assigned weighting (NOTE: the total weighting must add up to 100%)
Data	
Systems	
Analysis and Reporting	
Standard and Accreditation	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

SUBSECTION 3.6*: Criteria for Dimension 'Leadership '

      Kindly distribute an importance weighting of 100% across the following criteria with regards to diagnostic value of the Dimension and subsequent value towards improvement.

6 Criteria	Assigned weighting (NOTE: the total weighting must add up to 100%)
Institutional Definition	
Overall strategy	
HR Strategy	
Organizational Culture	
Decision Making	
Institutional Practice	

Kindly **comment on the lowest and highest weighting** allocation of your choice.

Section 4: General comments

Feel free to add any comments, remarks or recommendations.

This is likely to be the final round of consultation. Thank you very much for your participation in this Delphi Technique, kindly note down below whether and how you would like to be referred to in the acknowledgement of any publication that relates to this study. Acknowledgement does not include identifying you specific input in this consultation, it merely recognizes you as one of the consulted experts and the overall results that this generated.

I would like to be acknowledged in future publication*:*   *YES // NO*
Name and title preferred to be used for acknowledgement*:*
_____

Thank you for your participation in this Delphi Technique.

APPENDIX 9 Detailed Discussion Delphi Round 1

First the required tasks of Round 1 will be outlined alongside their intended validation purpose, after which the responses to each tasks will be presented and discussed. To finalize the discussion of this round, a concluding account will be formulated based on the purpose of this round with notes on how the consultation was progressed to the next round.

In this round the participants were asked to complete five tasks which are outlined in the left column of Table A-12. The right column of Table A-12 indicates the corresponding purpose to each task in light of the study.

Task		Purpose
1	Score the appropriateness of the practice of Maturity Modeling for diagnosis of a HEI's approach to employability.	Validate the general approach of Maturity Modeling for the diagnosis of a HEI's employability transformation process.
2	Rank five process descriptions in terms of their level of sophistication.	Validate the maturity levels on the basis of their fundamental demarcation.
3	Score each proposed dimension of the model for appropriateness as per the model's purpose and justify the score if required. Suggest potentially missing dimensions.	Validate the comprehensiveness of the model's dimensions.

Task		Purpose
4	Score the criteria that make up the dimensions of the model for appropriateness as per the model's purpose and justify the score if required. Suggest potentially missing criteria per dimension.	Validate the comprehensiveness of the criteria for each of the dimensions in the model.
5	Overall additional comments	General comments, critique or reservations.

Table A-10 Tasks and Purpose Delphi Round 1

1. **Task 1 Score the appropriateness of the practice of Maturity Modeling for diagnosis of a HEI's approach to employability.**

The results of responses to this task, as presented in Table A-13 indicate a 100% consensus among the panel members around the appropriateness of Maturity Modeling as a general approach to diagnose the process of a HEI towards employability.

Scores tally for appropriateness of the approach of Maturity Modeling as a diagnostic tool for a HEI's process for employability			
Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
0	0	3	4

Table A-11 Appropriateness Score Maturity Modeling Approach

The scoring of 'Appropriate' was accompanied by preliminary reservations around the components of the model and the fact that a model is only an approximation of a complex reality.

" I would give it a 3. However, this would depend on the criteria and dimensions used*"*

" Seems like a good approach, but it depends on the chosen dimensions and criteria*"*

*"*3 because it is impossible to represent all aspects of the concept of employability. A maturity model is a simplified way to represent a complex challenge. As such is it both limited *(*in that employability is too complex to represent in any way and is very individual to the student AND the HEI*)."*

The scoring of 'Highly appropriate' was supported by statements that clearly indicate the understanding of Maturity Modeling and highlight the need for an approach that encapsulates practice for improvement and allows for the meaningful discussions at institutional level towards progressing as an institution rather than resulting in isolated events of improvement.

*"*This will allow the methods and process to be assessed against external benchmarks in accordance with management best practice.*"*

*"*Maturity models are useful and effective as *"*evolutionary roadmaps*"* for identify weak areas of an organization*'*s processes that require better definition and coherence to a level of innovation and dynamism through continuous improvement and optimization*".*

*"*The practice can be expected to trigger a debate at institutional level towards quality improvement and help an institution to be aware as a whole what it is doing, where it is strong and where it falls short*".*

The above results give confidence that the practice of Maturity Modeling is fit for purpose to diagnose a HEI on how it addresses employability and can therefore be considered as validated.

2. Task 2 Rank five process descriptions in terms of their level of sophistication.

Upon presentation of a shuffled order of the five gradient statements around general maturity levels of a HEI's transformation process for employability the participants were asked to rank the descriptions from least to most sophisticated. The final ranking as presented in Table A-14 was achieved with consensus among six experts (>70% consensus) and is therefore considered as confirmed. The levels have been labeled at the discretion of the researcher. The labeling was shared with the panel in the results discussion of Round 1 at the start of Round 2 and did not trigger any comments or disagreement. The labels are highly intuitive and based on prior peer reviewed scholarly activity (Vande Wiele et al, 2014). The ranking that was found contrary to the consensus was het result of interchanging level 3 and 4. The participant did indicate in the comment section that most of the descriptions captured all aspects crucial to an effective approach. The consensus around the ranking indicates a valid progression of complexity between each of the levels that is clearly recognizable. This further supports the ability for the EDAMM to indicate progressing practice towards improved sophistication of a process.

Label	Description
Traditional	The HEI focuses on transfer of theoretical knowledge through traditional learning environments, supporting services are underdeveloped and passive, industry relations are non-existent or do not impact the learners' employability, quality is addressed simplistically with minimal improvement plans and leadership does not consider employability a purposeful priority.
Espoused	The HEI espouses the idea of creating employable graduates conversely but lacks developmental ability and commitment to realization of curricular and support practices deliberately geared towards employability. A strategy around the topic is lacking or lacks commitment towards implementation. Organizational discourse and documentation includes the construct but operationally this is limited to pockets of ad hoc activity at best without any sense of sustainability. Industry relations are cosmetic in nature and its impact on the transformation process does not go beyond promotional discourse and superficial input to inform the HE offering. Basic quality measurement systems are being explored or in pilot phase for part of the institution. Leadership endorses the idea of employability at conceptual level but does not prioritize its support towards development and implementation of clear action plans.

Label	Description
Enacted	The HEI acts on the idea of realizing employability through a formal plan of strategic nature that outlines deliberate and purposeful curricular and support activities on the basis of researched effective practice. The institution shows formal commitment to the realization of employability. Employability is institutionally defined, is considered part of the organizational culture but its realization happens in siloed approaches with minimal interaction between different departments (administrative and academic or core and support) that does not go beyond reporting on performance to senior management. Priority is given to the formal curriculum; however support services are actively engaged with stakeholders in an organized manner with priority going to student support. Industry is actively involved in both curricular and support activities at various levels of invasiveness. Systematic quality measurement systems are in place. Leadership strongly endorses and supports ideas on employability and formally includes it as a decision making criteria where applicable.

Label	Description
Integrated	Good practice around Employability and HE is standard and forms part of the organizational fabric of the HEI. There is a dedicated strategic address around employability that consists of a clearly articulated expectation of participants in the process. There is a formally established collaborative relationship between curriculum, support services, industry and measurement. Curricular practices are highly conducive to employability and interface systematically with support services and industry in terms of design, development, delivery and assessment. Quality control reviews the employability transformation process and findings around effective practice and possible improvements are disseminated to the relevant parties in a systematic manner as part of the institutional quality assurance processes. Leadership puts employability central to its mandate, strategy and decision making by driving best practice development through institutional research and supporting scholarship.

Label	Description
Optimized	The HEI has highly effective practices in place to tackle employability throughout the whole institution, sets the benchmark for the transformation process to employable graduates in its field and acts as a role model for other HEI's. All relevant departments provide regular input to one another for informed action through an informed information and knowledge sharing mechanism building on a continuously growing body of institutional research. The institution continuously fine tunes its practices through strong synergetic interaction of and engagement with internal and external stakeholders. The transformation process is highly agile and operates on the basis of future labour market intelligence, institutional research and integration of cutting edge industry practice in its curricular activities. Support services and industry relations are highly effective in interfacing between the core activity of the HEI and the relevant external stakeholders to enable relevant knowledge and information flows. The institution's impact on and network in industry and society is highly meaningful and reputable, making the HEI the partner of first choice for all stakeholders.

Table A-12 Consensual Ranking of Process Statements

3. Task 3 Score the dimension of the model for appropriateness and justify the score if required. Suggest potentially missing dimensions.

For this task, the panel was presented with a concise description of what each dimension represented. Table A-15 presents the total tally of appropriateness scores of

the panel for each of the dimensions indicating a validation of the proposed

dimensions in EDAMMv1 as a result of 100% consensus among the panel.

	Appropriateness scores tally			
Dimension	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Curriculum	0	0	2	5
Support Services	0	0	2	5
Industry Relations	0	0	2	5
Quality Measurement	0	0	3	4
Leadership	0	0	0	7

Table A-13 Appropriateness Score Model Dimensions

Comments revealed thoughtful engagement of some of the panel in the

consultation, identifying underlying elements that, even though already covered in the

latter part of this or following consultation rounds, illuminated good understanding of

the concept and critical analysis of the presented information. The panel raised the

importance of 'the inclusion of the learner in the model', the need for consideration of

'HR practices', the 'importance of people in the realization of a system', appropriate

'attention to T&L practice' and the need for 'consideration of labour market

research'. When observing the full EDAMMv1, it is clear that each of the concerns

are already addressed (Table A-16) and therefore the comments did not require further

action or alteration of the questionnaire prepared for Round 2. One of the panel

members rightfully highlighted the critical nature of the interrelatedness of each of the

dimensions, which is indeed one of the crucial points that this model raises in terms of

on the one hand modeling a complex reality and on the other hand outlining improvement of sophistication of the process towards the higher maturity levels 'Integrated' and 'Optimized', where the synergies between all dimensions can be expected to produce very clear benefits. The attention was also drawn on the need to pay attention to the proverbial 'closing of the loop' in a context of review for improvement. The nature of Maturity Modeling addresses that inherently by means of describing gradient levels of sophistication for each of its dimensions and respective composite criteria thus outlining a pathway towards more effective practice.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Inclusion of the learner	Curriculum	The learners is clearly identified as the central point of the 'T&L' process
	Support Services	'Student engagement' is addressed
	Quality Measurement	Learner evaluations of courses and support services are identified as one of the important quality indicators.
People	Leadership	'Strategic HR' practice, 'Organizational Culture' and 'Professional Development' address the 'people' aspect.
	Curriculum	'Faculty' composition concerns people.
	Support Services	'Staff' expertise concerns people.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Teaching and Learning Practice	Curriculum	Careful address of Delivery and Assessment in terms of 'T&L' practice.
Labour Market Research	Quality Measurement	The criteria 'Data' and 'Systems' directly address this issue.
	Curriculum	'Curriculum Design' and 'Development' indicates the consultation with external stakeholders around labour market data.
	Industry Relations	Addresses the 'Form' and 'Benefit of the relation' between the HEI and industry, which includes exchanges of information around labour market intelligence.

Table A-14 Address of raised concerns on Dimensions in the EDAMMv1

Given the consensus around the presented dimensions and the meaningful

placement of the raised comments in the existing model, the researcher felt it

appropriate to consider the dimensions as presented in the EDAMMv1 as validated

without need for review or reconsideration.

4. Task 4 Score the criteria that make up the dimensions of the model for appropriateness and justify the score if required. Suggest potentially missing criteria per dimension.

This task was approached dimension per dimension, whereby for each dimension the panel was presented with a concise description of what all its criteria represent.

4.1. Curriculum Criteria

Table A-17 presents the total tally of appropriateness scores of the panel for each of the criteria of the 'Curriculum' dimension, indicating a validation of the criteria proposed in the EDAMMv1 as a result of 100% consensus among the panel for four out of 5 criteria and 85% consensus for the remaining criterion 'Faculty'. The 'inappropriate' score awarded by one of the experts for this criterion was supplemented by a note that "this is ideal but understanding can be developed in new staff", suggesting in fact agreement with the underlying idea that the evaluation of the faculty holds inherent value to better understand how effective the process is or what kind of measures can be considered for improvement.

	Appropriateness scores tally			
Criteria	Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
T&L	0	0	2	5
Design & Course Sequence	0	0	2	5
Curriculum Development	0	0	1	6
Faculty	0	1	3	3
Outcomes	0	0	1	6

Table A-15 Appropriateness Score Curriculum Criteria

The comments highlighted the need for inclusion of 'assessment', an address of 'internship' inclusion in the curriculum, a 'mechanism of continuous quality improvement' and finally the 'involvement of employers in curricular activities'. Observation of the full EDAMMv1 reveals that each of these concerns is already addressed (Table A-18) and therefore no further action of alteration of the questionnaire for Round 2 was deemed required.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Assessment	Curriculum	'T&L 'is considered to address both Delivery and Assessment considerations
Internship	Curriculum	Internship is covered as a component of 'Curriculum Design'
	Industry Relations	Internships are one of the benefits that HEI can draw from collaborating with industry.
	Support Services	Indications are given around how support services can contribute to the inclusion of WIL activities
Continuous improvement mechanisms	Curriculum	'Curriculum development' considers closing the loop by means of including employability in course and programme review
	Quality Measurement	'Systems', 'Data', 'Analysis & Reporting' and 'Standard & Accreditation' each cover aspects of a continuous improvement mechanism.
	Leaderships	Strategic considerations around improvement at institutional level inclusive of academic activities
Industry involvement in curricular activities	Curriculum	'Design' and 'Development' makes consideration of the types of consultation that takes place. Furthermore, the term 'authentic learning experiences' includes the involvement of industry in delivery and assessment of the programme.
	Industry Relations	The 'Form of relation' between the HEI and industry covers this point.

	Quality Measurement	'Systems' of measurement include the consultation with industry for particular data on learners and graduates
	Leadership	'Strategy' covers the point of industry engagement

Table A-16 Address of raised concerns on Curriculum Criteria in the EDAMMv1

Given the consensus around the presented criteria and the meaningful placement of the raised comments in the existing model, the researcher felt it appropriate to consider all criteria of 'Curriculum' as validated without need for review or reconsideration.

4.2. Support Services Criteria

Table A-19 presents the total tally of appropriateness scores of the panel for each of the criteria of the 'Support Services' dimension, indicating a validation of the criteria proposed in the EDAMMv1 as a result of 100% consensus among the panel across all criteria.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Support Services	Student Engagement	0	0	3	4
	Organization & Orchestration	0	0	5	2
	Staff	0	0	1	6
	Bridge to labour market	0	0	1	6

Table A-17 Appropriateness Score Support Services Criteria

The comments highlighted the fact that the success of 'Student Engagement' is dependent on "the learning facilitator and the quality of the concepts being discussed in learning experiences" and "awareness raising among students" of which services are on offer.It was also argued that the staff's "practical and theoretical understanding as learning facilitators are critical" to provide meaningful and effective support. The comments asserted the value of 'Support Services' to be integrated with other thematic activities (particularly curriculum)..

Observation of the full EDAMMv1 reveals that each of these concerns are already addressed (Table A-20) and therefore no further action of alteration of the questionnaire for Round 2 was deemed required..

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Learning facilitator ability	Support Services	The 'Staff' criterion addresses the expertise and ability of the facilitators of support services. The 'Organization and Orchestration' criterion also indicates the need for meaningful services.
	Leadership	The 'HR strategy' criterion addresses the provision of professional development
Awareness Raising among students	Support Services	The criteria 'Student Engagement' and 'Organization and Orchestration' both tackle this notion.
	Leadership	The criteria 'Organizational Culture' and 'Communication' include the notion around meaningfully connecting with learners as part of the stakeholders.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Integrated approach	Support Services	The ·Organization and Orchestration· of support activities makes explicit reference to the connection with curricular activities.
	Overall Model	The ·Enacted·, ·Integrated· and ·Optimized· maturity levels are explicit about the integration of support services in the larger set of activities.

Table A-18 Address of raised concerns on Support Services Criteria in the EDAMMv1

One of the experts proposed the possible inclusion of two new criteria in this section: 'the address of students with learning difficulties' and the 'students' welfare/happiness'. Since the EDAMMv1 did not explicitly address this, the researcher considered both as worthy to be progressed to Round 2 for further evaluation by the full panel for appropriateness.   Given the consensus around the presented criteria and the meaningful placement of the raised concerns in existing model, the researcher felt it appropriate to consider the proposed criteria of 'Support Services' as validated and advance its exploration around the two additionally suggested criteria in the following round of the consultation.

4.3.   Industry Relations Criteria

Table A-21 presents the total tally of appropriateness scores of the panel for each of the criteria of the ·Industry Relations· dimension, indicating a strong validation of the criteria proposed in the EDAMMv1 as a result of 100% consensus

among the panel across all criteria whereby the vast majority of scores consider each

of the proposed criteria as 'Highly appropriate'.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Industry Relations	Approach	0	0	0	7
	Form of relation	0	0	1	6
	Result / Benefit for the HEI	0	0	1	6

Table A-19 Appropriateness Score industry Relations Criteria

Comments raised the suggestion to use 'formal programme industry advisory

boards' and the 'relationship between the HEI and the wider community' as new

criteria. The former is clearly linked to the themed activity, but the latter could

arguably be construed as pertaining a relationship different from industry.

Observation of the full EDAMMv1 reveals that the notion of 'industry advisory

boards for programmes' is already addressed (Table A-22) and therefore this

comment did not require further action or alteration of the questionnaire for Round 2.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Formal programme industry advisory boards	Industry Relations	The criterion 'Form of the relation' makes direct mentioning of the use of industry as a formal consultation partner for the development of the programme.
	Curriculum	The criteria 'Design and Course Sequence' and 'Course Development' make explicit links with this type of practice.
	Quality Measurement	The criterion 'Systems' addresses the use of industry as a source to inform the programmes alignment with industry
	Leadership	The criterion 'Institutional practice' explicates the standardization of such considered good practice.

Table A-20 Address of raised concerns on Industry Relations Criteria in the EDAMMv1

The notion of 'community relationship' was evaluated by the researcher as currently perhaps too implicitly addressed through the term 'external stakeholders' throughout the EDAMMv1 and was therefore considered as worthy to be progressed to Round 2 for further evaluation by the full panel for appropriateness.

4.4. Quality Measurement Criteria

Table A-23 presents the total tally of appropriateness scores of the panel for each of the criteria of the ·Quality Measurement· dimension, indicating a validation of the

criteria proposed in the EDAMMv1 as a result of 100% consensus among the panel

across all criteria.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Quality Measurement	Data	0	0	3	4
	Systems	0	0	3	4
	Analysis &Reporting	0	0	1	6
	Standard & Accreditation	0	0	4	3

Table A-21 Appropriateness Score Quality Measurement Criteria

Comments in this section pointed at the importance of a focus on 'review

activities that relate to employability aspects and improvement (thereof)', the notion of

'identification and encouragement of adoption of good practice', 'benchmarking of

systems' and the activity of 'tracking alumni career progression' inclusive of a

retrospective evaluation of the value of their learning experience.

Observation of the full EDAMMv1 reveals that each of these concerns is already

addressed (Table A-24) and therefore these comments did not require further action or

alteration of the questionnaire for Round 2.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Review processes focused on employability and improvement	Quality Measurement	Each of the criteria is developed and described with specific focus onn employability related aspects.
	Curriculum	The criterion ·Course Development· specifically addresses the use of employability as part of the review process.
	Leadership	The criteria ·Decision making·, ·Organizational Culture· and ·Institutional Practice· each address explicitly or implicitly the focus of employability in case the criteria refer to review or improvement.
Identification and encouragement of adoption of good practice	Quality Measurement	Each of the criteria suggests the inclusion of this notion in terms of internal review and quality assurance, particularly at the ·Integrated· and ·Optimized· level.
	Leadership	The criterion ·Institutional Practice· addresses this notion directly.

Raised points	Address in the Model	
	Dimension	Criteria elaboration
Benchmarking of systems	Leadership	The criterion 'Institutional Practice' makes direct and explicit reference to the idea of benchmarking
	Quality Measurement	The criterion 'Standard and Accreditation' includes the meeting of accreditation requirements at institutional, programme and professional level.
	Curriculum	The criteria 'T&L', 'Course Design and Sequence', 'Course Development' and 'Outcomes' make reference to aspiring to effective practice levels towards eventually becoming the benchmark.
Tracking alumni	Quality Measurement	The criteria 'Data', 'Systems' and 'Analysis and Reporting' include the opportunity of Alumni as a valuable data source.
	Leadership	The criterion 'Overall Strategy' can be argued to suggest the Alumni Unit to hold potential value as a support activity of crafting an informed transformation process.

Table A-22 Address of raised concerns on Quality Measurement Criteria in the EDAMMv1

Given the consensus around the presented criteria and the meaningful placement of the raised comments in model, the researcher felt it appropriate to consider the criteria of 'Quality Measurement' validated without need for review or reconsideration.

4.5. Leadership Criteria

Table A-25 presents the total tally of appropriateness scores of the panel for all criteria of the 'Leadership' dimension, indicating a validation of the criteria proposed in EDAMMv1 as a result of 100% consensus among the panel across all criteria.

		Appropriateness scores tally			
		Highly inappropriate	Inappropriate	Appropriate	Highly appropriate
Leadership	Institutional Definition	0	0	2	5
	Overall Strategy	0	0	1	6
	HR Strategy	0	0	1	6
	Organizational Culture	0	0	0	7
	Decision Making	0	0	2	5
	Institutional Practice	0	0	0	7

Table A-23 Appropriateness Score Leadership Criteria

In the comments section it was noted that the criterion 'Institutional Practice' warrants consideration for both academic and practitioner experience among both the management of non-academic and academic elements of the transformation process. The fact that this model is built on the notion that employability is to be viewed from a holistic perspective in concert with a value chain approach to the transformation process the HEI has in place, makes it evident that the criterion 'Institutional Practice' indeed concerns both the non-academic and the academic side of the organizational affaires of a HEI.

Given the consensus around the presented criteria for this dimension, the researcher felt it appropriate to consider the criteria of 'Leadership' as validated without need for review or reconsideration.

5. **Closing comments for Round 1**

The closing comments for round 1 did not raise any issues for concern; rather they indicated praise to the purpose of this study and identified it as very timely, highly meaningful and very thought provoking. The comprehensiveness of the (so far) presented information was highlighted as a fundamental strength of the study by two experts.

Considering the purpose of Round 1 outlined at the outset of this section, Table A-26 summarizes the attainment of the objectives of this round with relevant notes towards Round 2.

	Purpose	Notes
1	Validate the general approach of maturity modeling for the diagnosis of a HEI's employability transformation process.	The practice of Maturity Modeling is in principle validated as an approach for the diagnosis of a HEI's employability transformation process.
2	Validate the maturity levels on the basis of their fundamental demarcations.	The proposed maturity levels were found to be valid.
3	Validate the comprehensiveness of the model's dimensions.	The proposed dimensions of the model were validated as appropriate and comprehensive.
4	Validate the comprehensiveness of the criteria for each of the dimensions in the model.	All proposed criteria were validated as appropriate. Three topics were raised as potential additional criteria to the model: - Consideration of students with Learning difficulties - Student welfare/happiness - Relationship between HEI and the wider community These three are presented to the expert panel in the following round for validation around appropriateness as diagnostic criteria.

Table A-24 Purpose Attainment Round 1

Bangkok University

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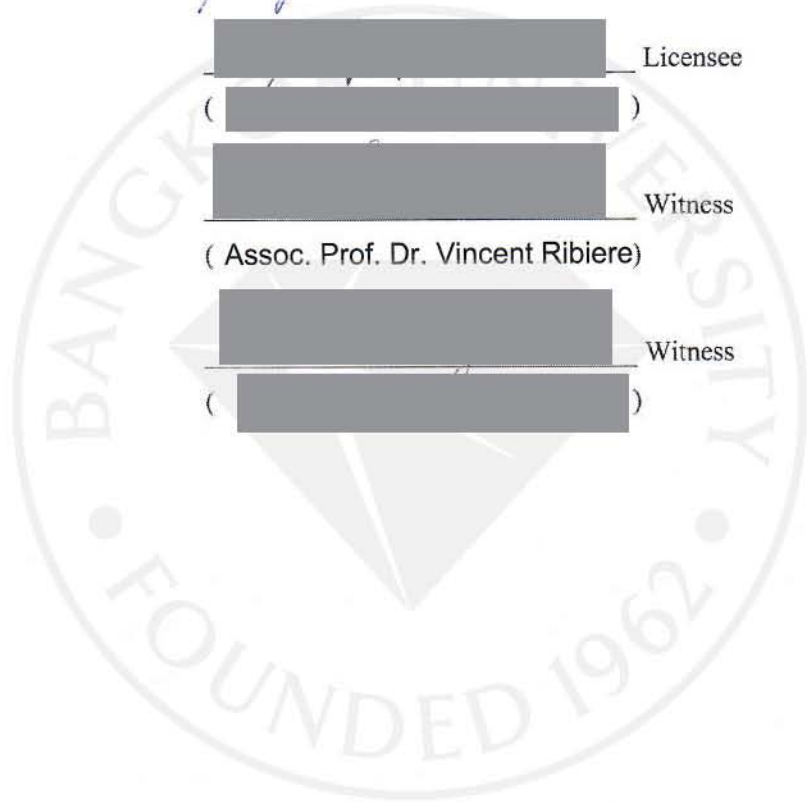
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