THE INCUBATION OF NEW KNOWLEDGE IN THE INCEPTION OF STARTUPS: A CASE STUDY OF A CORPORATE VENTURE BUILDING COMPANY

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ABSTRACT

The fierce competition and turbulent changes in all industries require companies to go above the existing competencies to achieve long-term success in the marketplace, where breakthrough innovation is desired. (Robeson & O'Connor, 2007) Companies, especially established companies, must explore and create new knowledge and competitive advantages beyond their incumbent knowledge base to seek new paths for growth and renewal opportunities to sustain the innovation capacity in the long run. A corporate incubator can act as a buffer that moderates between the fast-paced and highly uncertain startup world and the slow and complex corporate environment. It can potentially be an influential source of innovation and growth for the established company through entrepreneurial activities. (Weiblen & Chesbrough, 2015) In the inception of startups, it is necessary to manage the knowledge well to launch the new startup successfully. This study, thus, aims to understand how knowledge management plays a pivotal role in newly developed ventures and how it affects the launch of a startup and the journey ahead. A single case study of a corporate venture building company was conducted to address the research question: *How does startup incubation through corporate venture building create and develop knowledge?*

Keywords: Knowledge incubation, corporate venture building, corporate incubator, knowledge boundary, knowledge in practice, knowledge transformation

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CHAPTER 1
INTRODUCTION

1.1 Motivation of Study

To respond to the fierce competition and turbulent environment, achieve long-term success and sustain competitive advantages in the market, firms must go above and beyond their core competencies, which has stimulated and driven them to discover and build new knowledge and capabilities. This is where breakthrough innovation is desired. (Robeson & O'Connor, 2007) They are rapidly emerging worldwide as essential components to aid the development of new ventures. Companies, especially established ones, must explore and create new knowledge to seek new paths for growth and renewal opportunities beyond conventional new product development to adapt to the change and sustain innovation capability and competitive advantage in the long run. However, exploiting the current competencies cannot satisfy this desire for breakthrough innovation and growth. (Robeson & O'Connor, 2007) As the conventional new product development with incremental changes would not fit the rapid growth nowadays, one pathway to grow beyond incremental innovation is incubating new ventures outside the current company structure in a new market or knowledge domain, which may even disrupt or transform the original business. (O'Connor & DeMartino, 2006)

Unlike the traditional new product development in the company, startup incubation in the organization requires a different path of knowledge management in the company. However, what has challenged the established firms is how to adapt to the turbulent changes that challenge stabilized corporate structure and inherent knowledge base. (Kötting, 2019) The previous domain-specific knowledge in the established company might also become the competency trap that hinders the innovation from entering the new marketplace. Companies need to have a trade-off between knowledge exploration in the new domain and exploiting the existing competencies to balance the uncertainty and risk. However, knowledge exploitation often dominates and drives out

knowledge exploration in the company, as the returns are more promising and less risky, which also brings short-term returns. (Levinthal & March, 1993) Thus, companies tend to follow the procedure from their prior successful experiences to avoid and reduce the uncertainty by applying the "best practice" they learned and accumulated from their previous success. However, there is no "best practice" to build a successful venture and develop radical innovations. Therefore, it would be interesting to investigate the ability or knowledge people in the innovation hubs need to carry to build and innovate ventures and cultivate disruptive innovation in the industry with their fresh eyes. Meanwhile, the parent company would get a chance to access and adopt new technologies and new business opportunities through the new incubated ventures.

Previous research has demonstrated that the external knowledge development approach is ideally positioned to deliver breakthrough ideas since it is relatively more creative and autonomous. Smaller team sizes can also effectively avoid the inertia and myopia that plague large established organizations. (Kamuriwo et al., 2017; Schneider & Veugelers, 2010) Knowledge incubation through venture building in the corporate incubator can potentially be a path to avoiding the competency traps in the firms and achieving breakthrough innovation. Exploring and experimenting with the new technologies in the new market domain to develop new ventures are unpredictable, sporadic, non-linear, and often bring long-term returns. (Leifer et al., 2001) It is always hard to control and takes more effort from the company to develop and build a venture from scratch. Unlike the intensive R&D or new product development process, venture incubation does not aim to have an intensive R&D process for fully functional products. Instead, the key to venture incubation is to incubate, test, and explore the new opportunities in the new market and knowledge domain above the company's existing competencies with a lean, agile, and iterative knowledge creation process. Later, once the idea is proved in the market through the pilot test, companies can scale through the more intensive development process with several iterations. Generating and incubating new knowledge can also help the company balance the cost and risk caused by knowledge exploration.

The corporate incubator, which can also be identified as an innovation hub, can be the venue of this early knowledge creation and incubation stage. Many large tech companies have proved corporate incubators to be efficient and viable for accelerating new ventures within established companies and industries. An effective innovation hub helps to reduce uncertainties. They gather and configure the resources and multi-tasking entrepreneurial individuals, facilitating and overseeing the incubation activities without increasing bureaucracy. (Leifer et al., 2001) A corporate incubator can also effectively leverage corporate assets, identify emerging markets, explore new market opportunities, inject innovation and entrepreneurial mindset into the established companies, and drive the company toward breakthrough innovation. A corporate incubator is usually a highly autonomous and agile unit built by established companies. The new knowledge is explored in the corporate incubator and constantly transferred to the business units in the parent company. (O'Connor & DeMartino, 2006) A knowledge incubation process happens through venture development, which stimulates the company's innovative and entrepreneurial mindset.

Typically, multiple players and stakeholders are involved in the knowledge incubation activities. Through a multi-direction knowledge transfer, the company exploits and explores knowledge by leveraging the accessible resources from different parties, integrating and creating new knowledge. As the central place where knowledge incubation occurs, the corporate incubator would facilitate the knowledge transfer and integration among all stakeholders, both internally and externally. This knowledge can be explicit and implicit. Therefore, complexity often occurs when integrating this knowledge in a knowledge incubation, especially when both internal and external parties incorporate a hybrid governance structure. In this situation, the corporate incubator also needs to competently manage the knowledge boundaries from different parties with different knowledge bases from diverse backgrounds.

The study desires to explore and understand the critical role of managing newly assembled and developed knowledge when building new startup ventures in the corporate

incubator. Besides, understand the challenges and obstacles that venture teams face in the entire process and how they reacted to and overcame the challenges along the journey. In addition, the startup's inception requires entrepreneurial multi-tasking individuals with high risk-taking preferences to leverage their practical ability to continuously create and incubate knowledge through building new ventures in entirely new industries or the marketplace. They sometimes need to jump to the unknown knowledge domains with fresh eyes and "ignorance" in the new fields. Therefore, this study also aims to examine the essential ingredients and factors that allow the individuals and companies to take the risk, explore new knowledge, orchestrate the resources, and manage the boundaries in the inception of startups through corporate venture building to sustain their innovation capability.

1.2 Corporate Incubator

The objective of a corporate incubator in the corporation is to enable the companies to pursue specific strategic goals through venture-building activities. The strategic alignment between the venture portfolio and the parent company has been considered one of the critical relevant criteria for venture selection in the corporate incubator, sometimes even more important than the immediate financial return. (Becker & Gassmann, 2006b; Hausberg & Korreck, 2018) It consists of the incubation processes that facilitate the hatching and leveraging internal and external technologies and knowledge. Thus, the corporate incubator ventures can be internally built by intrapreneurs and externally acquired startups with promising business ideas. (Becker & Gassmann, 2006b) A corporate incubate can act as a buffer between the fast-paced startup world and the slow and complex corporate environment. It can potentially be a significant source of innovation and growth for the established company through entrepreneurial activities. (Weiblen & Chesbrough, 2015) As an interface organization channel, corporate incubators facilitate the resources and knowledge flows between new ventures, external stakeholders, and parent companies. (Branstad, 2010) The corporate incubator plays a role as a "knowledge hub" of the venture-building expertise and

entrepreneurs where the new ideas and innovations are incubated and developed. New knowledge is created and transferred to other business units in the parent company. (Becker & Gassmann, 2006b) The services that corporate incubators provide have no significant difference from the traditional incubators or accelerators. However, corporate incubator aims more at cultivating intrapreneurship and encouraging their employees to create new businesses that have potential opportunity to become new business units or spin-off ventures. (Becker & Gassmann, 2006b)

There are different archetypes of the corporate incubator identified in terms of different objectives: fast-profit incubators, which obtain rapid financial returns through the development and spin-off of the non-core technology and business units; leveraging incubators, which act as a bridge or a matchmaker to match the central R&D department and the marketing units; insourcing incubator, which scan and explore the environment to find a window for emerging technologies; and market incubators, which explore new potential market demand for the parent company's products by supporting the development of complementary technologies. (Becker & Gassmann, 2006a; Carayannis & von Zedtwitz, 2005) Incubators also play a role in helping bridge knowledge, digital, socio-political, and even cultural boundaries. It can increase the availability, awareness, accessibility, and affordability of key entrepreneurial success factors such as financial, human resources, and intellectual capital. (Carayannis & von Zedtwitz, 2005) In addition, for the large established companies where radical innovation cannot be effectively managed within the confines of the firm, incubators separated from the organizational structure can become one of the sources of organic renewal. (O'Connor & DeMartino, 2006)

One of the main differences between a corporate incubator and the traditional incubator is that by backing up by the parent company, corporate incubators can access particular knowledge and know-how in specific domains from the parent company. Through the business units of the parent company, ventures can access and obtain a large pool of knowledge and resources in different business domains such as business

development, customers, technology, and markets. (Kötting, 2019) However, barriers to innovation might occur in the incubation process. These barriers consist of the knowledge gap of "not knowing" certain information or knowledge, the motivation gap of "not wanting" to know, and the capability gap of "not being able" to break through the process and administrative barriers. (Becker & Gassmann, 2006b) In this case, the corporate incubator can act as or coordinate the promoters to close these gaps and ensure the smooth operation of the incubator and the transition of innovation towards commercialization in the incubated ventures. (Becker & Gassmann, 2006b)

Another significance of venture incubation is to exploit the existing knowledge. One of its main goals is to unlock the not-yet-identified value contained in its existing knowledge. Therefore, business incubators play a role in exploiting extra potential value by leveraging existing knowledge. (Kötting, 2019) As an innovation vehicle of the company, the corporate incubator hatches and generates new knowledge and explores the capabilities in the new domains. However, it must align with the parent company's strategic goal to connect business units and the newly built ventures. (Hausberg & Korreck, 2018) Besides, a corporate incubator allows established companies to explore the new market and incubate new knowledge outside their existing organizational structure through a structured approach to innovation. (Becker & Gassmann, 2006b; Kötting, 2019) Moreover, the corporate incubator can be a place to commercialize the ideas invented within the corporate environment but do not fit with the current core business of the parent company. The corporate incubator enables the newborn ventures to develop and grow outside the parent company's bureaucratic structure by providing a startup-like environment. In case of success, the venture will have a chance to operate independently and spin off to the new market or reintegrate into the parent company as a new business unit. (Weiblen & Chesbrough, 2015)

1.3 The Objective of Study

This research aims to understand how knowledge management plays a pivotal role in the newly developed knowledge during the inception of the startup ventures in the corporate incubator. When creating new ventures, the trade-off between knowledge exploration and exploitation is necessary for the companies to balance risks and uncertainties while achieving innovation. Besides, multiple parties with diverse backgrounds are often involved in the startup incubation process through the corporate incubators, where noticeable knowledge boundaries need to be managed to ensure the smoothness of startup incubation. Thus, this study also attempts to understand knowledge transfer and integration among different stakeholders in the corporate incubator to understand the success factors and inevitable obstacles of knowledge incubation.

An in-depth literature review and a single case study have been conducted with a venture building company that provides corporate venture building (CVB) as a service and helps established corporations develop corporate incubators. They facilitate knowledge management activities in the corporate incubator, such as knowledge assembly, creation, and transformation, to thrive in the deep end of management innovation, leading corporate incubators to experiment with breakthrough value creation processes and knowledge incubation. As for the results, the study expects to identify and understand the process of nurturing an ability to incubate new startups, develop new knowledge in the corporate incubator, and effectively manage knowledge boundaries among multi-background stakeholders.

1.4 Scope of Study

A single case study has been conducted with several ventures to understand the process of creating, organizing, and incubating knowledge in the early stage of startup venture building. These startup ventures are co-created by Whatnot Startup Studio and its corporate clients in the corporate incubator. This case study explores and examines the knowledge development process in the high adhocracy ventures in the corporate

incubator. It was conducted with both ongoing and terminated ventures in different market domains and diverse stakeholders from various functions involved in the incubation process. In addition, challenges encountered during the knowledge incubation process have been identified, and the corresponding reaction and solutions to overcome the challenges have also been analyzed and studied. The researcher interviewed stakeholders from various professional backgrounds and investigated the significance of knowledge management in the inception of ventures in the corporate incubators. Moreover, this research also examined how the knowledge boundaries are negotiated to integrate and incubate knowledge across the desperate startup and corporate environments.

1.5 Significance of Study

A corporate incubator allows the parent company to leverage internal and external resources and knowledge into fast-speed innovation development. On the one hand, it provides a chance for the established company to exploit, utilize, and commercialize untapped knowledge and technology. On the other hand, it allows the parent company to access and adopt particular knowledge or new technologies know-how in specific domains from the parent company in a short period. However, when developing ventures in the corporate incubator, several ventures are often incubated simultaneously and independently while aligning the overall strategy with the parent company's objectives. Multi-background stakeholders are also involved, generating more boundaries and difficulties in knowledge sharing, integration, and transformation. Therefore, the knowledge incubation process through the corporate incubator must ensure that ventures operate with enough autonomy and adhocracy while aligning with the parent company's vision and strategy.

In addition, since there is no perfect or standard way to build a startup, each team is highly autonomous and might have its unique way of developing the venture. Thus, the venture teams are expected to have the "knowing how" to react to the consistently

changing situation and capture the market opportunities, especially the Entrepreneurs in Residence, who are the leader and main decision-makers of the ventures. This “knowing in practice” embedded in the incubator members’ actions (Cook & Brown, 1999) is one of the essential factors to success. Although the concept of knowledge incubation and corporate incubator is a relatively new phenomenon, a certain amount of relevant literature is addressed in this field, yet it is still constrained. Previous research has provided a holistic analysis and identified the critical features of the corporate incubator and the knowledge flow within the incubator. However, there is still a lack of theoretical study on a knowledge incubation happening in the corporate incubators across the different organizations and functions when an outsourced venture builder is facilitating. In addition, knowledge management is rarely discussed in this phenomenon of knowledge incubation in corporate venture building, especially the significance of knowledge boundary management in the agile but complex process. Thus, this research aims to understand and examine how knowledge management is significant to the corporate venture-building process and how to effectively negotiate the knowledge boundaries across different stakeholders to boost the “organizational knowing” of the corporate incubator.

CHAPTER 2
RESEARCH BACKGROUND

In this chapter, the researcher conducted a literature review on the corporate incubator, knowledge incubation, knowledge integration and generation, knowledge boundaries management, and knowledge in practice to explore the research gaps and propose the research questions.

2.1 Manage Knowledge in Corporate Incubator

In the face of fierce competition in the global economy, companies seek a new growth path that goes beyond traditional new product development and R&D processes and creates opportunities to drive growth and breakthrough innovation by entering a brand new market. (O'Connor & DeMartino, 2006) For a large established company, different from the conventional way of new product development that aims to the incremental changes and innovation in the company, the commercialization of radical innovation or breakthrough innovation is an increasingly vital path to growth, renewal, and rejuvenation. (O'Connor & DeMartino, 2006) Breakthrough innovations enable companies, especially the established firms, to transform the relationship between customers and suppliers, restructure marketplace economics, explore the new market opportunities, and create entirely new products that would even potentially substitute the current product and service. (Leifer et al., 2001) From the traditional point of view, breakthrough innovations often happen and are incubated outside the organizational structure and re-assimilated if they have obtained traction in the marketplace. (O'Connor & DeMartino, 2006) Companies must develop new products and technologies that significantly impact the market by offering new benefits, remarkable improvements in known benefits, or notable cost reductions. However, these impacts are also highly correlated with high risk and uncertainty. Thus, companies must develop new

competencies in technology, market, and organizational domains under the specific situation. Eventually, an innovation competency will become the ability that allows the company to commercialize innovations repeatedly. (O'Connor & DeMartino, 2006)

2.1.1 Role of a Corporate Incubator

A corporate incubator is a way an established company can accelerate growth, discover new markets and exploit new knowledge beyond the core business by establishing a structured method of innovating. (Becker & Gassmann, 2006a; Kötting, 2019) When a company adapts and generates new knowledge, the ability to adapt to changes is limited to the company's inherent ability. With the newly adapted knowledge, a company might have a remarkable transformation, but they cannot change to another animal as a whole completely. (Davenport et al., 1998) Thus, when a company aims to leverage some of the existing resources to generate new knowledge in a different domain and achieve a certain level of business transformation in corporate innovation, the ability of simply knowledge acquisition and adaptation may be limited. Corporate incubators absorb and leverage external knowledge while entrepreneurs adapt to the inward-focused knowledge so that corporate incubators contain both outside-in and inside-out innovation flow. (Weiblen & Chesbrough, 2015)

One of its main goals is to unlock the not-yet-identified value contained in its existing knowledge. Business incubators play a role in exploiting extra potential value by leveraging existing knowledge. (Kötting, 2019) The corporate incubator is one of the ways for the established company to utilize knowledge incubation, and it also plays a significant role in exploiting the existing knowledge. Besides, as an innovation vehicle of the company, the corporate incubator hatches and generates new knowledge and explores the capabilities in the new domains. The corporate incubator also provides a chance for the established companies to explore the new market and incubate new knowledge outside their existing organizational structure through a structured innovation. (Becker & Gassmann, 2006a) By backed up by the parent company, corporate incubators can access particular knowledge and know-how in specific domains from the parent company.

(Kötting, 2019) Corporate incubators often consider strategic alignment with the parent company when setting up criteria for selecting new ventures to incubate. (Hausberg & Korreck, 2018)

Typically, a corporate incubator is an organizational unit of an established company that aims to generate knowledge in the new ventures and transfer that knowledge to the existing business units in the established company. (Becker & Gassmann, 2006a) Kötting (2019) defined a corporate incubator as the knowledge broker between ventures and existing business units of the parent company, selects and develops ventures to generate and transfer knowledge between these two parties. As knowledge brokers, they identify the available knowledge in the corporate, understand the need of different knowledge workers, and build the connection to make it more accessible. (Davenport et al., 1998) The way a corporate incubator is embedded in the organization depends on what the parent company aims to achieve through the incubator. There are forms of how the corporate incubator can be embedded: the corporate incubator can operate independently and separately from the parent company to explore and incubate the new knowledge outside of the business unit. It can also inhabit the business unit while running independently in the mainstream operation. (O'Connor & DeMartino, 2006) Thus, the knowledge acquired by employees in business units and the corporate incubators can complement each other.

Corporate incubators integrate resources from various parties and stakeholders to maximize the effectiveness of knowledge management in the corporation and push the development of knowledge exploitation. By overlooking both external and internal knowledge and technology, a corporate incubator would acquire the necessary knowledge as essential ingredients to incubate and generate knowledge through building new ventures. Therefore, knowledge generation occurs through developing internal and external knowledge from the ventures. Through the knowledge incubation process in the corporate incubator, the company could combine the knowledge generated during the

development process with the organization's existing knowledge to generate innovation. (Kötting, 2019)

When selecting the incubated ventures, the corporate incubator usually needs to consider the overall dynamics of their portfolio. Since the tenants are often active in similar market domains, they may sometimes be hesitant to share the resources and networks due to the competition. However, if the knowledge base of the tenants is similar, it might reduce the chance of cross-fertilizations with new technologies and business domains. (Hausberg & Korreck, 2018) According to the knowledge-based view, the company's existing knowledge base defines and limits its scope and capacity to apprehend, absorb, and apply knowledge to innovations (Hill & Rothaermel, 2003). A company with a deep knowledge base should develop radical innovations through knowledge acquisition from the new market domain to maximize the usefulness of the existing knowledge resource from the accumulated knowledge base (Zhou & Li, 2012). The corporate incubator provides a chance for the established companies to explore the new market and incubate new knowledge outside their existing organizational structure through a structured innovation. (O'Connor & DeMartino, 2006). Therefore, the corporate incubator typically expects a mix of ventures from different fields at different life-cycle stages. (Hausberg & Korreck, 2018) Since knowledge creation often happens across different disciplinary departments where individuals and organizations with diverse professionals and expertise are brought together (Newell et al., 2009), the corporate incubator can become a knowledge hub of different knowledge bases for knowledge creation. (Becker & Gassmann, 2006b)

2.1.2 Governance and Management of Corporate Incubators

The management should be separated from the core business, and the new government should be adopted. The separation of management and new governance from the core business is an inevitable problem that needs to adapt to the existing business units of the parent company. Also, although incubators have a high degree of autonomy, they still need the intervention and support of the higher management and the budgets to

pursue innovation opportunities. (Kötting, 2019) By investigating the governance mechanisms of different innovation units, such as incubator and corporate venturing units, Robeson and O'Connor (2007) concluded that the management board composed of both members from the incubator and individuals outside the incubator is a more appropriate way for a business incubator.

Moreover, while the corporate incubator needs to align with the strategy, the organizational structures, cultures, and processes different from the parent company are required. (Kim et al., 2012) However, whether business incubators are located in-house or operated independently, they are managed separately from mainstream businesses (Robeson & O'Connor, 2007). The involvement of the senior management from the parent company should be balanced. Besides, if the business can exploit and leverage the existing resources of its corporate parents and business groups, the corporate venture would benefit and gain competitive advantages. The parent companies also directly influence the operation of the incubators. (Kohler, 2016) However, when the parent company's organizational compositions are insufficient for corporate venture incubation, the corporate incubator and ventures would need to be separated from the existing organizational structure and governance. (Kim et al., 2012)

However, when the parent company's management is too deep and extensive, it can cause problems. When the benefits of advisory committee members relate to the benefits of the parent company's existing business units, the board members are likely to be biased against new ventures and projects. Especially when these ventures have the potential to harm the benefits and interests of the business units. (Kötting, 2019) Due to the core rigidities and competency trap, it might be challenging for the established companies to respond and adapt to the new market and environment. (Becker & Gassmann, 2006b; Levinthal & March, 1993; Star & Griesemer, 1989) At the same time, embedded knowledge sometimes hinders innovation in the organization. Knowledge incubation through corporate incubators can reduce the increasing mobility of well-trained employees from established companies to technology ventures. It also allows the

intrapreneurs to develop their ideas and reap the financial benefits from the upside potential without leaving the big corporation. (Becker & Gassmann, 2006b) The department responsible for radical incubator should also be physically and culturally separate from the core business and organizational structure to deliver instant results while maximizing efficiency. (O'Connor & DeMartino, 2006)

Additionally, a pre-requisite for creating new knowledge in a trans-disciplinary knowledge generation is that since traditional hierarchies do not control the incubator, participants have more decision-making power and autonomy and more opportunities to do things differently. (Newell et al., 2009) Small outsourced teams can also effectively avoid the inertia and myopia plaguing large, mature organizations. (Kamuriwo et al., 2017; Schneider & Veugelers, 2010) Therefore, when the parent company's involvement is moderate, corporate incubators are more likely to succeed than companies whose corporate incubators are too loosely or tightly coupled with the business units. Given that, the management style in the corporate incubator should be collaborative rather than command and control. (Robeson & O'Connor, 2007) In the conventional view, new ventures should be incubated outside the current organizational structure, absorbed once approved, and gain traction in the marketplace. (O'Connor & DeMartino, 2006) Corporate innovation success requires an appropriate management system that can combine the elements to encourage organizational learning, experimentation, and various approaches to the market. This system must consider a comprehensive issue and align disparate elements, including culture and leadership, governance and decision-makers, skills and capability development, processes and tools, and organizational structure. (Kötting, 2019; O'Connor & DeMartino, 2006) The corporate incubator is the knowledge broker that acts as an organizational unit connecting the incubator's business units and ventures. Thus, ventures need to integrate into the corporate incubator's governance structure before the spin-off stage after completing the incubation process. (Kötting, 2019)

Previous research also indicated that innovative companies have institutionalized mechanisms for breakthrough innovation. (O'Connor & DeMartino, 2006) However, the institutionalization of the specialized capabilities in the organizations also causes rigidity in the organizational learning, as is the organization's politics. Previous success tends to push the associated managers to positions of power, and this power associated with the past successful experience would remain within the organization. (Levinthal & March, 1993) Therefore, a corresponding governance structure is needed to ensure proper knowledge integration. (Kötting, 2019)

Moreover, research has shown that among different governance structures, the hybrid structure is particularly suitable for situations where transaction-specific dependencies facilitate the integration of transactions into the organization. (Williamson, 1991) By examining the characteristics of the knowledge in the development process, we can identify the pros and cons of different governance structures. Since both internal and external parties are involved in the corporate, the diverse knowledge would be transferred and integrated into the incubator and involved in the governance. The hierarchical structure often limits knowledge and innovation flow since the knowledge needs to be transferred to different hierarchical levels. (Kötting, 2019)

One of the purposes of the radical innovation governance board is to promote non-incremental and breakthrough innovation from the project team working in the innovation hub. Thus, if the bureaucratic procedure constrains the board itself, it is unlikely for the team to be able to achieve radical innovation. The bureaucratic structure and procedures make it difficult for the innovation team to separate and distinguish from mainstream operations. (Robeson & O'Connor, 2007) In addition, it is undeniable that the promotion of innovation is still a relatively risky activity. A hybrid governance structure is more suitable for the corporate incubator. (Kötting, 2019) In addition, even though the success of the ventures in the corporate incubator is correlated with the know-how obtained from the parent company, there are still apparent differences in the knowledge provided. For example, since the ventures rely on different forms of

knowledge, it is essential to distinguish the entrepreneurial and organizational knowledge provided by the incubator's management from the market and technical knowledge provided by the business department of the parent company. (Branstad, 2010)

2.1.3 Knowledge Incubation

A knowledge incubation process is happening in the corporate incubator. The entire organizational innovation system and the synergy between business incubators, parent companies, enterprises, and external stakeholders are crucial to the success of knowledge incubation and innovation. (Kötting, 2019) Under the knowledge incubating through corporate incubators, knowledge is generated by collaboration between individuals and organizations. This collaboration and co-creation across different individuals, departments, and organizations bring diverse knowledge to the corporate incubator. (Mariano & Awazu, 2017; Newell et al., 2009) It pushes forward the development of new products, services, or organizational processes, and various knowledge bases should be gathered to create new knowledge. Usually, this diversity would not be carried by one individual but within the cross-functional or cross-discipline departments or across different organizations. This multi-disciplinary knowledge integration also brings a more holistic understanding of the phenomenon of creating new concepts and ventures. (Newell et al., 2009)

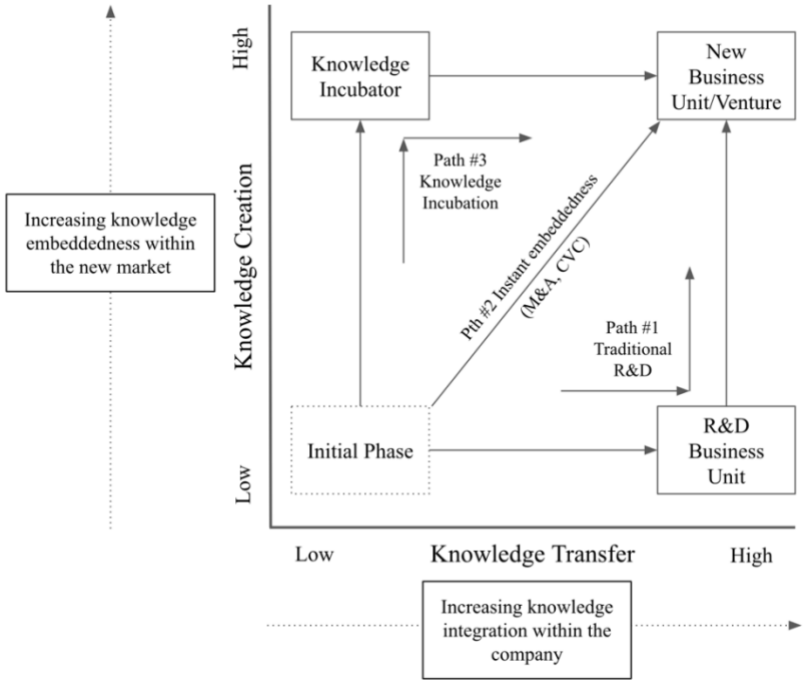
Knowledge incubation can be the third path for embedding in the new market field for innovation. (Lehrer & Asakawa, 2002) The diagram (Figure 2.1) adapted from Lehrer and Asakawa (2002) represents three different paths to explore and enter the new market field by distinguishing the sequence of knowledge transfer and knowledge creation:

Path #1 constitutes the classic evolutionary path of the traditional R&D process. The business units of new product development gradually transform over time from transferring the existing knowledge in the organization to knowledge creation after knowledge integration. (Lehrer & Asakawa, 2002)

Path #2 represents the “instant embeddedness” through mergers and acquisitions or corporate venture capital, by acquiring or investing in the existing business that offers technologies or market entries that the core business may lack, established companies can instantly access and obtain the innovation capabilities and rapidly embed in the new market domain. However, this instant embeddedness might require time to integrate the acquired facilities and competence into the parent company. Integrating knowledge and capabilities within the established company also faces a managerial and organizational challenge that lacks cost-efficiency. (Lehrer & Asakawa, 2002; O’Connor & DeMartino, 2006)

The third path is an approach to more organic and generative growth, where embeddedness comes before integration. It is a path to develop new lines of business and nurture technical competencies through knowledge incubation to achieve radical innovation. (O’Connor & DeMartino, 2006) Knowledge incubation is more a transitory process, and the knowledge incubator indicates a temporary rather than a stable type of organization. (Lehrer & Asakawa, 2002) The corporate incubator will carry out the development of the ventures and the knowledge incubation along the process. Ultimately, the incubated venture will evolve into a more independent structure and become a subsidiary or a new company division. (O’Connor & DeMartino, 2006) After the knowledge integration within the incubator, the venture can either carry the knowledge to spin-off and operate as an independent entity outside of the organizational structure of the parent company or partially run independently by spin-along as the subsidiary of the parent company. A spin-in can also happen when the parent company is highly involved in managing and retaining the specific venture as an internal project. (Kötting, 2019; O’Connor & DeMartino, 2006)

Figure 2.1: Adapted from (Lehrer & Asakawa, 2002)



2.2 Knowledge Exploration & Exploitation

2.2.1 Dynamic Capability

Today's turbulent environments and fierce marketing competition require business managers to make the right decisions quickly. (Pavlou & El Sawy, 2011) Companies should have the dynamic capabilities to react to this turbulent environment by building, extending, modifying, integrating, and reconfiguring the existing internal operational capabilities and external competencies to address the rapidly changing environment. (Pavlou & El Sawy, 2011; Teece et al., 1997) The turbulent environment boosts the potential value of the newly developed products. Companies need to be competent to reconfigure the current capabilities to react to the constantly changing environment. Thus, dynamic capabilities become more valuable and crucial under this circumstance. (Pavlou & El Sawy, 2011)

However, the current operational capabilities are more beneficial to improving productivity and achieving efficiencies in developing the existing products. At the same

time, the environmental turbulence may dilute the value of the current products since the marketing needs and technologies are constantly changing. In addition, operational capabilities are often the result of the costly and usually irreversible configuration of existing resources that require a lot of time. Consequently, the frequent reconfiguration of operational capabilities may disrupt efficiency. (Pavlou & El Sawy, 2011) As a result, the current operational capability of the organization could cause rigidity due to the inertia and unwillingness to change. (Leonard-Barton, 1992)

In the dynamic capability framework that Madsen (2010) proposed, dynamic capabilities drive the evolution of organizational knowledge through exploration and exploitation, whereby the trade-off and balance between entrepreneurial exploration and strategic exploitation is the key. (Levinthal & March, 1993; March, 1991; Zollo & Winter, 2002) Exploration refers to discovering and developing alternatives and intuitive conceptions and ideas by searching, variation, risk-taking, experimentation, flexibility, and innovation. It is the experimenting or reinvention of the new knowledge, and it often brings uncertain, distant, and negative returns. In contrast, exploitation relates to reconfiguring existing competencies or an established set of routines through refinement, efficiency, production, selection, implementation, execution, etc. It is essentially the refinement of the existing knowledge which often brings the organization positive, proximate, and predictable returns. (Levinthal & March, 1993; March, 1991; Zollo & Winter, 2002) In addition, the impact of exploration on short-term returns and performance is rare and not instantaneous. (Rhee & Kim, 2015) These facts affect the lessons learned in the organizations and further affect the distribution and configuration of the resources between exploitation and exploration. (March, 1991)

The outcomes and returns from exploration are much more uncertain than the returns from investigation, the distance existing in time and space dimensions. Exploring or experimenting with new ideas and markets has a longer time horizon and more diffuse influences than exploiting and evolving from existing ones. Therefore, in the case of exploration, the time and space distance from learning to realizing returns are more

prominent than that of exploitation, and so is uncertainty. (March, 1991) Moreover, in the highly uncertain situation of innovation, the existing operation guidelines and procedures designed for improving efficiency and generating quick profit are ineffective. They would also eliminate the effort of innovation. (Robeson & O'Connor, 2007) Therefore, an efficient trade-off and balance between knowledge exploration and knowledge exploitation are essential for the companies to develop and sustain the business in the long run. (March, 1991)

2.2.2 Competency Traps

Previous research also indicated that when it comes to self-serving biases affecting attributions of causality, individuals tend to attribute their successes to ability while attributing their failures to luck rather than attributing successes to luck and failures to ability. (Miller & Ross, 1975) Success, however, is the result of the combination of ability and luck. These biases in attributions of success regarding ability and luck can lead to biases in estimating risk. The tendency to over-attribute successful outcomes to luck will more likely lead to overestimating risk to decrease risk-taking.

In contrast, when individuals over attribute their success to ability, they might underestimate risk, thus increasing risk-taking. Therefore, when the habitual tendency of overattributing success to ability occurs, the executives will fall into the illusion of control. This brings them the confidence to handle future events with the existing approach and ability they learned from their previous successful experience, which they might ignore and underestimate the role of luck in their achievement. (Levinthal & March, 1993) The competency trap will therefore occur when an inferior procedure shows a good performance, which leads the organization to accumulate more experiences by following the same process, whereas the particular procedure and technology will thus be inadequate to be worth using. (Levitt & March, 1988)

It sometimes can be counterproductive when companies tend to codify and record only the "best practice" and the successful insights from the previous experience. On the one hand, recording the successful practice might reduce employees' motivation and

intention to experiment further and explore a new approach, which might have a chance to bring better performance and higher returns than the recorded best practice. (Lee & Van den Steen, 2010) On the other hand, the recorded "best practice" is sometimes an inferior procedure that leads to a successful result, which might mislead future action when the context changes. In addition, organizational knowledge may not be systematically captured and stored under normal conditions. Although a formal "lessons learned" database exists, it can capture a tiny fraction of the complete working knowledge used during a particular activity. (Carlile & Rebentisch, 2003) As a result, the company might fall into a stronger competency trap. Thus, companies must balance the trade-off between exploiting the known best practice and continuing exploration for better performance in the future. (Lee & Van den Steen, 2010; Levitt & March, 1988)

Levinthal and March (1993) also argued that sometimes knowledge exploitation might dominate and drive out knowledge exploration in the company, as the returns are more certain, and this will cause the competency trap to occur. Established companies might face competency traps when they cannot surpass the routes successfully created in the past. In the case of the new demands requiring an extension of the firm's existing domain competencies, a company's knowledge can be a source of competitive advantage. (March, 1991) However, When new demands are beyond the scope and familiar domains of the company's past activities, the existing knowledge might become a competency trap or even a source of rigidity. (Carlile & Rebentisch, 2003) On the one hand, the parent company of the corporate incubator often has rich management experience in large enterprises, leading to a strong complacency. The knowledge accumulated from the company's previous experience is an essential basis for the company to create competitive advantages. Besides, organizations and individuals learn from previous experience to improve their performance by repeating the same tasks. This experiential and repetition-based improvement and exploitation of the existing competencies brings a higher certainty to the company to achieve the short-term goals and generate a quick profit. (Levinthal & March, 1993) Furthermore, people are often unsuspecting to

misrecognize or classify the novel objects as something they already know or discard them as irrelevant objects. (Carlile, 2004; Levitt & March, 1988)

However, while simplification and specialization lead to improvement, they would also limit that improvement in the long run. The specialized knowledge and technologies in the company have clear and immediate uses and can bring moderately early and local returns. In contrast, the broader and deeper knowledge is less likely to generate immediate pay-off, but it might lead to a more powerful ability to adapt to the change in the long run. In addition, successful exploration results tend to diffuse over the organization and become public interests, while the risk and cost of exploration are personal and private. As a result, the best strategy is usually to exploit the successful explorations of others in the organization. This strategy will reduce or eliminate innovations and lead to a diminished spiral of the existing competence when this is widely implemented in the organization. (Levinthal & March, 1993) Zollo and Winter (2002) also proposed that sometimes exploitation can prime exploration so that there can be a recursive and co-evolutionary relationship in addition to the familiar trade-off between exploration and exploitation processes. Therefore, it is crucial to balance entrepreneurial exploration and strategic exploitation in the organization to minimize the competency traps that lead to adverse effects on corporate innovation. (March, 1991; Zollo & Winter, 2002)

2.2.3 Balance Exploitation & Exploration

Refinement of the existing technology and paradigm can substitute for seeking and recognizing the better alternatives and vice versa. The effectiveness and excellent performance from the short-term learning near the current experience interfere with the learning at a distance in the long run. Exploiting knowledge and refining the existing competencies improve immediate performance. However, simultaneously, it might demotivate the exploration of new technologies and paradigms. (Levinthal & March, 1993) The effects of investigation are uncertain and remote in time or space. Although it is crucial to maintain an appropriate balance between exploitation and exploration,

research has shown that organizations tend to emphasize exploitation over exploration due to their vulnerability to exploitation, even when this is not in the organization's best interests. Therefore, the organizations are more likely to exploit the current strategies, especially in the case of previous successful experiences. (March, 1991; Rhee & Kim, 2015)

An effective way to improve organizational performance through organizational learning is by simplifying the experience and specializing in adaptive responses. (Levinthal & March, 1993) The previous experience often has a long-term and continuing influence and consequence on the organization's present behavior, performance, and survivability. Thus, the organization's evolution is path-dependent. The past successful experience or the protracted positive performance outcome can induce further success by refining the learning curve and improving efficacy. However, it might also lead the organization to the success trap of strategic persistence. (Rhee & Kim, 2015) A prior experience of success at a particular strategy increases the probability that one will continue to exploit that strategy, thereby improving the exploitative competence. On the other hand, failure triggers exploration, leading to an increase in exploratory competence. (Levinthal & March, 1993; Rhee & Kim, 2015)

The success trap can be harmful, especially for early successful organizations, as they usually have little experience of failure and therefore have a low level of exploratory competence, making it challenging for them to get rid of and recuperate from the success trap. (Rhee & Kim, 2015) Previous studies have found that since exploratory competence has little effect on the short-term performance and return, the competence in exploration does not cause organizations to fall into a success trap. However, experimental competence does influence the success of an organization’s attempts to escape a success trap. (Rhee & Kim, 2015)

To survive and prosper in the long run, the corporate needs to develop both the competence of exploiting its existing strategy and exploring the new strategy. (March, 1991; Rhee & Kim, 2015) When an organization’s performance exceeds its aspirations, it

will likely stick with or exploit its current strategy. When an organization's performance falls short of its aspirations, it is more likely to explore new approaches. (Greve, 2002) Furthermore, given the path-dependent nature of knowledge, Carlile and Rebentisch (2003) proposed that the performance of knowledge storage influences the efficiency and relevancy of knowledge retrieval. However, in many cases, when the stored and recorded knowledge is no longer relevant to the current issue, the prior success might also lead to adverse consequences when the context changes. In this case, the usefulness of the stored knowledge is diminished, and it can even be detrimental. On the other hand, routine activities without novelty may limit knowledge acquisition as no new learning is required. Novelty, therefore, has become one of the major challenges of knowledge transformation and integration. (Carlile & Rebentisch, 2003)

To sustain the development in the long run, the organization needs to build the cyclical process of knowledge storage, retrieval, and transformation to adapt to the complex environment. (Carlile & Rebentisch, 2003) This storage-retrieval-transformation cycle emphasized that knowledge storage usually causes path dependency or limits knowledge retrieval. Besides, it focused on transformation rather than acquisition, demonstrating that it requires much more effort for the organization to cope with the path-dependent nature of knowledge when novelty occurs. As this knowledge transformation process will not be complete immediately, a collectively agreed method is required to enhance the ability of the players to iteratively represent, specify, and negotiate the transformation of their specialized knowledge. (Carlile, 2004; Carlile & Rebentisch, 2003)

2.3 Knowledge Boundaries

Corporate incubators are usually highly autonomous, where there are often various stakeholders from different knowledge domains and diverse backgrounds in each venture. (Becker & Gassmann, 2006b; Kötting, 2019) The corporate incubator provides a chance for the established companies to explore the new market and incubate new

knowledge outside their existing organizational structure through a structured innovation. Breakthrough innovations often happen and are set outside the organizational structure (O'Connor & DeMartino, 2006). Robeson and O'Connor (2007) concluded that the management board composed of both members from the incubator and individuals outside the incubator is a more appropriate way for a corporate incubator. Thus, the knowledge incubation process often involves actors from different knowledge domains and backgrounds. In addition, knowledge transfer in a corporate incubator is typically bidirectional or multi-directional. It happens from the business units of the parent company to the ventures and the ventures to the business units. (Kötting, 2019) One of the significant challenges for any corporation is to create new knowledge by coordinating and integrating from different sources in various domains. (Carlile & Rebentisch, 2003) Both internal and external parties work together to nurture new business and incubate knowledge in the corporate incubator, where the knowledge boundary must be well managed. (Becker & Gassmann, 2006b) Therefore, the integration of corporate incubators within the parent organization and the interaction between the ventures and business units are particularly complex. (Kötting, 2019)

2.3.1 Knowledge Boundary

Most innovations occur on the boundaries between various professions, indicating that working across boundaries is an essential factor in competitive advantage. It is also why innovation is challenging to create and maintain. (Carlile, 2004) There are three properties of knowledge at a boundary: difference, dependence, and novelty. (Carlile, 2004; Carlile & Rebentisch, 2003) The difference in knowledge refers to the amount and types of domain-specific knowledge accumulated. Developing a complex product or service usually requires differences in the experience, terminologies, tools, and incentives in each unique and specific domain. However, without dependence, the difference is meaningless. Dependence refers to the conditions under which two entities must take each other into account to achieve their goals. As the number of dependencies among participants increases, the complexity and workload expected to share and evaluate knowledge at the boundary will also increase. In addition, when novelty emerges, there is

usually a lack of common knowledge on the boundary to share sufficiently and assess knowledge in specific domains. Therefore, the amount of work required to share and evaluate domain-specific knowledge will increase as novelty increases. (Carlile, 2004)

Carlile (2002) proposed that knowledge in organizations is problematic. On the one hand, knowledge is the source of innovation. However, on the other hand, knowledge can also be a barrier to innovation. It is perhaps the most prominent obstacle inhibiting knowledge sharing across different functions and disciplines in the organization. (Newell et al., 2009) In terms of agility, startups have an advantage over large companies, while large companies have the resources that startups lack. The combination of entrepreneurial ventures and corporate capabilities through a corporate incubator seems to be an ideal match. However, it also faces numerous challenges. (Weiblen & Chesbrough, 2015)

In a complex environment such as corporate incubators where the novelty is high, each specialized domain needs to create new knowledge to respond to the latest changes and more demanding requirements, and the increasing novelty also. The increasing novelty also increases the need for knowledge transformation. This increased novelty can disrupt existing stable relationships between fields of specialization, so the organization needs to redefine and renegotiate the dependencies. (Carlile, 2002; Carlile & Rebentisch, 2003) Meanwhile, the difference and dependence increased with novelty will limit the knowledge transformation ability. (Carlile & Rebentisch, 2003) In this case, a new set of collective solutions and mutual agreements must be redefined, such as shared terminology, procedure, or artifact. (Carlile, 2002)

In addition, differences and dependencies increase between specialized domains which may cause negative consequences that require a collective solution. Organizations must effectively integrate and transform different specialized knowledge to address this issue and develop a mutual agreement and joint resolution. Under this circumstance, knowledge creation will no longer merely be about making tacit knowledge explicit among different domains. Instead, it is also about the re-negotiation and transformation of

knowledge to generate a new solution collectively. (Carlile, 2002; Carlile & Rebentisch, 2003)

When knowledge plays a role in driving problem-solving with a function or department, these characteristics also hinder the creation of knowledge across different functions and departments. These knowledge boundaries cause the severe problems that specialized knowledge brings to the organization. However, besides being critical challenges in the organization, knowledge boundary is also a constant necessity because what organizations produce is often based on the specialization of different types of knowledge. (Carlile, 2002) Knowledge boundaries protect and develop the competitive advantages of the organizations. Working across boundaries between disciplines and specializations creates innovation, which is also a critical factor in competitive advantage. However, this is also why developing and maintaining innovation is challenging. (Carlile, 2002; Carlile & Rebentisch, 2003)

Various sources of knowledge are combined and integrated within the knowledge creation process. The detailed knowledge can be internal within the organizational boundaries and external through collaboration with other entities. (Becker & Gassmann, 2006b) The exported knowledge transfer might fail when the receiver of the knowledge does not perceive it as relevant to their particular situations or when it conflicts with their established practices. (Hong et al., 2016) Since corporate incubators comprise numerous stakeholders, they must address the challenge of integrating contributions and specialized knowledge from different specialty areas. This requirement highlights the difficulty of integrating knowledge across boundaries between specialized knowledge domains, significantly when the scale and scope increase. (Carlile & Rebentisch, 2003) In addition, when the groups need to complete tasks by counting on each other, the interrelationships and dependencies increase. These raised dependencies also cause the complexity of knowledge integration among multiple groups of specialized knowledge in different domains. (Carlile, 2004; Carlile & Rebentisch, 2003)

2.3.2 Knowledge in Practice

When talking about knowledge, there are two types of knowledge that previous researchers have defined. (Cook & Brown, 1999) summarized these two forms of knowledge as the 'epistemology of possession' and the 'epistemology of practice.' The 'Epistemology of possession' views knowledge as possession of people, while it is some object that people possess, which could be explicit and tacit at individual and group levels. This kind of knowledge is embedded in a context or a space, according to (Nonaka & Konno, 1998). This space can be physical space such as the office space and separated business space, virtual space such as e-mail and online conference, and mental space such as shared ideas and experience. It can also be the combination of any of these three types of spaces. People can acquire and create this knowledge from their experience or by reflecting on the experiences of others. (Nonaka & Konno, 1998)

Tacit knowledge consists of two dimensions. The first dimension is technical, and the second is cognitive. Technical tacit knowledge refers to the informal personal skills or crafts, often known as "know-how." In contrast, tacit cognitive knowledge includes beliefs, ideals, values, schemata, and mental models. They are usually deeply rooted in us and shape our perspectives of the world, even though it is generally hard to articulate or verbalize. (Nonaka & Konno, 1998) Previous literature has proved how to structure knowledge and learn about the problems faced within the practice. Knowledge creation happens when individuals have a shared approach or meet a common issue and share the consequences in the community. (Carlile, 2002) Given that the situated, purposive, and tacit nature of knowledge is clarified (Cook & Brown, 1999) merely having a shared syntax would not be enough to work across the communities of practice. (Carlile, 2002) Thus, this insight indicates that simply categorizing non-explicit knowledge as tacit knowledge in the narrow sense is not comprehensive. The knowledge that is not explicit is also the knowledge or knowing embedded in the engagement in the "practicing" of individuals' practice. (Carlile, 2002; Cook & Brown, 1999; Nonaka, 1994)

As “knowledge as possession” is considered the tool we use in the actual work or something necessary to the action, “knowing in practice” is embedded in the action and is a part of the action. Two characters of “knowing” are relational and interactive. “Knowing” does not entail the possession of static knowledge. Instead, “knowing” is about interacting with the world as a part of the action that allows people to interact with the social and physical world. (Cook & Brown, 1999) When acknowledging it, actions are shaped by the world, and “knowing” is embedded in activities. (Orlikowski, 2002) This is also how “knowledge in practice” differs from tacit knowledge because someone also possesses tacit knowledge. It is something that people use in action rather than part of the action itself (Cook & Brown, 1999). It is not static; instead, it is dynamic when employees interact with the team under specific contexts in work. It refers to an “organizational knowing” that appears in organizational ongoing and placed actions while engaging and interacting with the world. (Cook & Brown, 1999; Orlikowski, 2002) . The relationship between knowing and knowledge is dynamic, and the “generative dance” and the interplay between knowledge and knowing can create new knowledge and ways of knowing, which may become a substantial source of innovation in organizations. (Cook & Brown, 1999) When people interact with the world in a disciplined way, we also shape the physical world and affect the social world. Knowing is to use knowledge as a tool to interact with and acknowledge the world. (Cook & Brown, 1999)

When we identify knowledge as the ‘epistemology of practice,’ instead of treating knowledge as a possession owned by someone, knowledge sticks to people’s actions. It is the “knowing” found in the individual and group practice. (Cook & Brown, 1999) In this case, “knowing is not a static embedded capability or stable disposition of actors, but rather an ongoing social accomplishment constituted and reconstituted as actors engage the world in practice.” (Orlikowski, 2002). Thus, more knowledge is embedded and reflected in what people know how to do in practice and action, rather than simply explaining based on people's knowledge. We need to consider both *knowledges* used in action and *knowing* as part of the action. “Knowing” needs to be added to knowledge to

transit from what we know to what we do. In a nutshell, knowledge as possession regards knowledge as what people have and knowing in practice regards knowledge as what people do. (Cook & Brown, 1999)

In terms of "practice," we can explain it from two perspectives. On the one hand, we can interpret "practice" as drilling or rote learning actions such as practicing a musical instrument. On the other hand, we can also interpret it as implementing and exercising a competency such as practicing medicine and engineering. The former refers to the preparation of doing the "real work," while the latter refers to the "real work" and action itself. For our purposes, the term "practice" represents the second interpretation as the "real work" itself, and it is the interactive actions of individuals and groups in doing their actual work under a particular organization context (Cook & Brown, 1999). The knowledge in practice is embedded in the methods, technologies, and rules of thumb used by individuals working in that particular practice. (Carlile, 2002)

2.3.3 Manage Knowledge Boundary

Under the pragmatic view of knowledge, the management of knowledge boundary is no longer merely about processing and transferring more knowledge but more about transforming knowledge. (Carlile, 2002) The pragmatic boundary involves the knowledge transformation between different domain specialists to work together effectively. The core of problem-solving through trial-and-error at the pragmatic boundary is the ability to propose, negotiate, and transform knowledge. Stakeholders need to experiment collaboratively with alternatives to form new agreements that reflect and represent the knowledge shared and assessed across the boundary. (Carlile, 2004) These stakeholders are often from diverse industry knowledge, profession, culture, company structure, and work habits. When many stakeholders with diverse backgrounds participate in parallel knowledge creations and venture-building activities to integrate knowledge from different parties, the challenges created by knowledge boundaries are inevitable. Although innovation happens at the boundaries between different mindsets and knowledge bases, the mindset still needs to connect for boundaries to exist.

(Davenport et al., 1998) Thus, effectively managing the knowledge boundaries and integrating knowledge among stakeholders is crucial for a successful knowledge incubation. The facilitator must also effectively negotiate and manage the boundaries among different stakeholders to redefine and rebuild the boundaries.

Carlile (2004) developed a framework that describes three progressively complex boundaries: syntactic, semantic, and pragmatic, and indicated that to overcome these three boundaries and effectively manage knowledge, three progressively complex processes need to happen: knowledge transfer, knowledge translation, and knowledge transformation. When the knowledge is localized, embedded, and invested in the practice, this "knowledge in practice" makes it challenging to manage knowledge across boundaries between different functions and accommodate knowledge developed in another practice. (Carlile, 2002) Different entities must go through an iterative process to share and assess knowledge at the syntactic, semantic, and pragmatic boundaries level and develop a sufficient common lexicon, meaning, and interests to address the consequences that occur at the boundaries consistently. (Carlile, 2004)

Acknowledging both domain-specific knowledge and common knowledge at the boundary helps better understand the challenges actors face when they need to innovate across the boundaries. (Carlile, 2004) Barriers to innovation can also consist of the information problem with a knowledge gap with "not knowing," a motivation problem of "not wanting" to know, and a qualification problem with the capability gap of "not being able" to overcome the barriers. These barriers can also lead to the delay and refusal of innovation. (Becker & Gassmann, 2006b) Therefore, the boundaries across different functions and disciplines must be well investigated and negotiated to enable innovation in a multi-disciplined context. (Carlile, 2004; Carlile & Rebentisch, 2003)

To effectively manage knowledge across the boundaries, stakeholders in the interactive community are expected to share their knowledge and be able to assess their domain-specific knowledge of each other. (Carlile, 2004) A collective competence grounded in routine practices in "knowing" how to innovate and create knowledge across

boundaries. (Orlikowski, 2002) A mutual understanding through communities of interaction needs to be generated. Individuals would be able to make tacit knowledge explicit across different boundaries to deal with the semantic differences. (Nonaka, 1994) One of the critical factors of successful global new product development is the ability to recurrently deal with boundaries encountered in everyday work, including temporal, geographic, political, cultural, technical, social, etc. To enact this ability, organizations need to deal with the boundaries by knowing how to navigate them by articulating, attending to, engaging with them, and knowing how to negotiate boundaries, redefining and reconstructing the boundaries on a routine basis. (Orlikowski, 2002) Orlikowski identified a repertoire of practices routinely conducted in the globally distributed product development work. These practices are abilities in the ongoing accomplishment. It can formulate and enact situationally, dynamically, and recurrently constitute overtime. This repertoire consists of five practices: sharing identity, interacting face to face, aligning effort, learning by doing, and supporting participation. These practices will enable organizations to routinely, repeatedly, and effectively enact a collective competence in complex innovation work across the boundaries. (Orlikowski, 2002)

2.3.4 Create Boundary Objects

Effectively managing knowledge across boundaries helps distinguish between domain-specific knowledge and common knowledge at the boundary. Addressing the challenge of managing knowledge across boundaries can be achieved through matching the capacity of common knowledge in the lexicon, meaning, or interests at the faced boundary and ensuring that actors involved have adequate ability to use those types of knowledge. (Carlile, 2004) When managing boundaries across different knowledge domains, organizations must create a shared context and mutual agreement among different specializations rather than simply transferring knowledge. (Carlile & Rebentisch, 2003; Nonaka, 1994) Organizations create value through knowledge creation by creating a shared space where different specialized groups create dependence and interact with each other. This shared space is crucial to knowledge creation and allows participants to transcend boundaries and expand their perspectives. (Nonaka & Konno,

1998) Creating this shared context and space is essential to effective knowledge sharing and transformation. At the same time, boundary objects (Star & Griesemer, 1989) can be used to represent knowledge from each group and thereby help develop the shared context. (Carlile & Rebentisch, 2003)

Boundary objects refer to the shared objects across different groups and contexts. A boundary object is expected to flexibly adapt to local needs and the constraints of several parties using it, yet "sit in the middle" and hold a common identity as it crosses between sites. (Carlile, 2002; Star & Griesemer, 1989) Furthermore, this object must be abstract enough to be shared across sites yet still concrete enough for individual sites to use. The boundary objects may have different meanings under different settings and groups. However, their structures need to be common enough to be recognized across various groups to become a means of translation. (Star & Griesemer, 1989)

Previous research discovered that although participants from various specializations and diverse disciplines hold tremendous differences, they may still successfully cooperate to create good results with a collectively agreed boundary object. (Carlile, 2002; Star & Griesemer, 1989) Boundary objects can be reused cyclically in routine-based activities where the conditions are steady and the demand for novelty is low. However, with the increased novelty, simply using the existing boundary and exploiting the current knowledge would not satisfy successful knowledge integration. (Carlile & Rebentisch, 2003) The previous common knowledge would also no longer represent the newly occurred novelties. (Carlile, 2004) Organizations must create new boundary objects to represent the increased difference and dependence in the freshly identified context to explore new knowledge. (Carlile & Rebentisch, 2003)

2.4 Pilot Study

To narrow down the scope and focus of the research, the researcher conducted a pilot study by having informal interviews with two co-founders at Whatnot Startup Studio. Each interview lasted around 1.5 to 2 hours in length. Participants were asked

about the key elements and ingredients in the knowledge incubation process and the obstacles and challenges they have faced daily besides putting their efforts into enabling radical innovation in the organizations through the smooth running of the knowledge incubation process.

When the conventional R&D and new product development process simply replicate the process to launch the new product by following the existing product development procedures based on the current operational capabilities (Pavlou & El Sawy, 2011) of the company, innovating through venture building requires the venture team to build something new from scratch or reinvent the business from zero. In this case, the existing knowledge and procedure in the organizational structure often limit and slow down the innovation and knowledge incubation process in the new venture. Thus, freedom and flexibility are crucial for a venture team to cultivate and incubate lean and agile ventures. It can also increase the possibility of venture success. A capability of repeated exploration and experiment is needed, and it is crucial to jump out of the existing structure and procedure of the parent company and run the team on a small scale, enabling fast decision-making and quick reaction to the situation.

The corporate incubator is like a startup factory that orchestrates the shared resources and infrastructure to support the knowledge creation and building process and allocates the resources to maximize the knowledge to build unparalleled innovative business ideas. Venture development is a knowledge-creation and problem-solving approach involving many stakeholders. The venture ideas can be acquired from the new technology or new market findings outside the corporate boundaries or developed from the problem statements or intrapreneurs inside the corporate boundaries. The corporate incubator is another form of project-based knowledge creation. Unlike the traditional project-based business units that are mostly temporary, in case of success, ventures created by the corporate incubator will become a new entity where the project team will have much longer-term involvement in the ventures.

In addition, when an organization aims to achieve breakthrough innovation, the team must think and execute outside the box and the comfort zone, meaning the parent company needs less or no control over the venture team. The existing industrial and domain-specific knowledge of the established company often leads to the competency traps, which have become one of the most significant barriers and primarily affected and limited the emergence of innovation. Besides, breakthrough innovation might have a chance to challenge or even disrupt the current core business of the established company. Thus, venture teams should not stay in their comfort zone and hold the process, forcing the existing knowledge and the same management and operating structure on the new ventures that need to incubate the new knowledge. However, the parent company still needs to allow the venture team to access the necessary resources, information, knowledge, and capital. In contrast, the venture team needs to have the ability and "knowing" of the essential and valuable knowledge they need to build a venture successfully. Besides, the vision and core values of the new venture also need to align with the parent company.

Given that, it would require the venture team to identify the critical knowledge needed for the venture incubation and integrate them to exploit and incubate new knowledge while helping the parent company maintain sustainability and achieve the goal of the business. They should be able to have the ability to grasp the essential knowledge and resources for incubating new knowledge and dismiss the unnecessary procedures and expertise that limit the development of radical innovation. The venture team does not need to access the whole set of knowledge under the existing structure. However, the parent company still needs to agree on a shared vision and develop guidance to maintain the sustainability of the business. There should be a balance between innovation and sustainability.

As a highly autonomous knowledge-intensive venture building company, Whatnot Startup Studio gives employees freedom and flexibility. In this adhocracy culture, employees can implement different ways to be comfortable and confident within

the venture-building process. A critical role in Whatnot Startup Studio is Entrepreneur in Residence (EIR). Venture builders highly engage in two essential tasks to establish the venture and achieve radical innovation. First, the startup studio needs to quickly scout and recruit the best executives to create scalable business ideas. Second, the team must leverage their knowledge and experiences to maximize success. Entrepreneur in Residence (EIR) is one of the fundamental driving forces for these two tasks. EIR is a specialist role in the startup studio that facilities the knowledge incubation process of venture building. They lead the team to identify, nurture, lead high-potential startup opportunities, and develop their idea concept and execution into a viable and sustainable venture. EIRs are operators in the knowledge incubators to drive radical innovation and startup success by leveraging their knowledge and experience to manage resources and integrate them. No prescribed method or procedure restricts how the EIRs should manage and integrate knowledge and help from the venture team. Therefore, EIR plays one of the most critical and decisive roles in the success of the knowledge incubation process in the company.

On the other hand, the venture leadership from the Whatnot management team acts like an orchestrator who manipulates and integrates the resources and knowledge from all stakeholders to ensure the maximum use of resources and support the success. The management team is also the supervisor of the EIRs to support and oversee their decision-making. They orchestrate and integrate different resources and knowledge and control the process within and across each venture, as there are always several ventures developing simultaneously. Besides, since building startups is not the same as typical business or product development, it requires an agile process to build rapid prototypes at a fast speed. Meanwhile, it also requires the venture team to accumulate much knowledge and information quickly. Both EIR and the venture team need to access the necessary knowledge and data and identify the critical knowledge required for knowledge incubation. Then they need to digest and accumulate loads of information and absorb new knowledge in a short period. EIRs and the management team are the enablers of the success of a knowledge incubation process.

However, even though these knowledge incubation organizations are usually highly autonomous, a normative control and a defined but flexible procedure are still needed at a certain level. Ventures should not isolate themselves and operate independently. A shared identity and vision need to be recognized, identified, and aware by each venture team; while incubating each new venture with their methodologies, a common goal and a shared standard also need to be existing in the whole Whatnot organization. Both interviewees mentioned that when you give too much freedom to the EIRs, things will run without any structure and eventually be out of control. Therefore, clearly defining a common goal and vision becomes one of the fundamental requirements in the startup studio. Then the venture-building process will go through a funnel where you hire talents, select the right service providers, convince clients, set up clear milestones and deadlines for each venture, and decide on "drop or go" at each decision gate. In this case, an invisible normative control among the ventures is critical to intervene in the whole knowledge incubation process to a certain extent. To set up this normative control and shared identity, Whatnot also needs to deal with the boundaries that routinely occur in their work at individual and venture team levels. These encountered boundaries include cultural, technical, social, political, and many other aspects. The Whatnot management team needs to negotiate, in other words, to redefine and reconstruct these boundaries and knowledge boundaries among all stakeholders, including EIRs, corporate clients, service providers, staff, venture teams, and so on. People who speak the same language would be more likely to get to the point, adapt to the role, and acquire the new knowledge in the knowledge incubation process much easier and faster. Thus, a shared boundary must occur during the knowledge incubation process and before the process even starts.

Apart from a common and shared identity and vision, building startups require the management team and EIRs to have the ability to make quick decisions. These decisions might be closely related to success and even determine the direction and future. In this case, on the one hand, both explicit knowledge and tacit knowledge in the field of expertise are undoubtedly necessary. People need startup knowledge to ensure ventures

will be as they should be. However, on the other hand, when talking to the interviewee, they mentioned that sometimes, when the challenge comes, or when a problem requires making a decision immediately, they can just know what will work and what is not. EIRs need this ability or intuition in their "entrepreneurial blood," which is also specific know-how they have built and accumulated from years of experience in the area. Therefore, knowing how to react quickly to the situation and make the right decision is paramount.

2.5 Research Questions

Based on holistic analysis focusing on knowledge flow within the incubator, previous research has identified types of corporate incubators, key features, and knowledge transfer processes of a corporate incubator. They also examined the structures and functions of venture development. Primarily, these studies were interested in operational structure, management governance, roles, and stakeholders involved in the innovation process. However, a lack of theoretical analysis demonstrates how knowledge has developed throughout the incubation process across stakeholders and functions in the corporate incubators.

The existing studies have also explored the internal knowledge dynamics within the incubator circulating back from external organizations to business units in the parent company. The research revealed that a corporate incubator is a way that an established company can accelerate growth, discover new markets, and explore new knowledge beyond the core business by establishing a structured method of innovating. It is also a practical approach to exploiting the established companies' existing knowledge. (Becker & Gassmann, 2006a; Kötting, 2019)

Most literature about knowledge incubation through venture development tends to focus on the corporate incubator within the established company. For this reason, the managing issues within the incubator and between the parent company and the incubator stood out. In addition, collaboration with external stakeholders during the venture search stage became another issue for them (Kötting, 2019). However, due to the characteristics

of the corporate incubators being different from the regular project-based business units, third-party or outsourcing partners are often involved in the incubation process. They usually participate in the incubation process in various forms such as facilitator, consultation, and rental. (Davenport et al., 1998; Kötting, 2019) These stakeholders are from diverse industry knowledge, profession, culture, company structure, and work habits.

In addition, apart from knowledge in both tacit and explicit format in the organization, another form of knowledge is placed in the ongoing social accomplishment, which is an executive ability constructed in daily practice. (Orlikowski, 2002) This organizational knowing plays a vital role in a successful knowledge incubation process, especially in the fast-paced startup environment. Even though there is no specific and strict rule or procedure that people must follow in the company, there is still a way to do things and make decisions as an "organizational knowing."

The existing literature has discussed knowledge creation with people from different knowledge sets and collaborative and social processes. Also, the capability of actors to explore and incubate knowledge in fields that might be entirely different from their incumbent knowledge base through corporate incubators to achieve innovation has yet been well examined. However, throughout the whole venture building and development process, knowledge management activities at different stages of the startup's inception have not been discussed much in the previous literature. In addition, there is not much research on how companies can properly take good care of knowledge in the early stages of incubating new ventures to sustain the business of innovation centers or parent companies in the long run. Therefore, this research aims to understand the critical role of knowledge management in the newly developed venture and the ability that allows the organizations to consistently create and incubate new knowledge in entirely new areas to react to the turbulent environment. Besides, to explore the secret recipe and essential factors that the key players in corporate venture building carry out to

survive in this highly uncertain and high-risk environment. From the points mentioned above, the primary research question is as follows:

MQ: How does startup incubation through corporate venture building create and develop knowledge?

This question is decomposed into the following three sub-questions for a detailed examination purpose; first, to identify the critical role of knowledge management in startup creation and incubation, it is necessary to understand how the corporate incubator has developed knowledge while building a new venture from scratch. When creating and developing new knowledge at a startup's inception, demonstrating and incubating knowledge, integrating knowledge from different specialized knowledge domains, and transforming the newly generated knowledge into a venture for further development are also essential. The study pursues understanding a general knowledge flow throughout the venture development process. Given that, the first sub-question is as follows:

SQ1: How does startup incubation initiate knowledge development?

Incubating and surviving startups in turbulent environments is highly challenging. The corporate incubators may face numerous challenges and obstacles when building new ventures and developing new knowledge in different fields with people from various specialized domains and disciplines. For example, competency traps from previous experience, knowledge boundaries between stakeholders, resource constraints in the startup environment, and much more. The study aims to recognize the critical challenges that corporate incubators face over the entire knowledge development and incubation process. With that, the second sub-question is as follows:

SQ2: What challenges does knowledge incubation face?

In addition, exploring the new field of knowledge and building and sustaining the innovation capability requires a group of multi-functional individuals with entrepreneurial ability and risk-taking preferences. (Robeson & O'Connor, 2007) The venture building team must react to the rapidly changing situation and overcome the challenges during the startup development stages. Through the research, the researcher would like to learn what kind of effort the players in the corporate incubator have put into managing knowledge during the incubation process to overcome the challenges they are facing. According to this, the third sub-question of the research is:

SQ3: How do both a venture building company and a startup venture overcome those challenges in incubation?

CHAPTER 3
RESEARCH METHOD

3.1 Research Design

The research method chosen for this study is a single case study research. The rationales behind this method selection are as follows: first of all, "case study refers to an empirical study that investigates a contemporary phenomenon (the "case" in-depth and with its real-world context, especially when the boundaries between phenomenon and context may not be evident" (Yin, 2009) In the case of this research, the researcher would like to understand the phenomenon of knowledge incubation, and to figure out how can radical innovation be developed through the knowledge incubation process. to achieve this, a case study allows the researcher to zoom in the phenomenon and explore how and where does the ability to create radical innovation from, and how can it help the organizations to avoid the competency traps. To answer the research question: "*How does startup incubation through corporate venture building create and develop knowledge?* " the qualitative research approach would be the more appropriate method to conduct the research. Compared to quantitative methods, in which the factual data would be collected to answer the research question, and the hypothesis is formed by linking the variables before the data collection, the qualitative research methods are used to unearth the opinions, meaning, and perspectives of the participants. (Hammarberg et al., 2016) The qualitative techniques focus more on words than numbers and data, and it is an induction process that generates theory from observation. Therefore, quantitative research would be more appropriate in this study to answer the "how" research question (RQ), and a single case study method would be chosen to conduct the research.

Besides, the case study can be descriptive or exploratory and focus on analyzing processes - how something was done or works. (Yin, 2009) Thus, a case study can help the researcher conceptualize the organization's knowledge incubation and look deeper

into the significant role of knowledge incubation in corporate innovation. The researcher would collect and analyze data and information from interviews, observation, documents, etc. In this context, it also allows the researcher to explore why and why not the knowledge incubation is successful, the essential components to boost the success of the process, what obstacles and boundaries led to the failure of radical innovation through knowledge incubation, and how to negotiate and redefine these boundaries.

Moreover, in this research, the researcher will analyze the behavior and activities of different stakeholders involved in the knowledge generation, including parties from inside and outside the organization and members with varying functions of jobs from different knowledge domains. Therefore, this research will be a single case study in that the researcher will be examining all of the stakeholders involved in the knowledge incubation and conducting a comprehensive study of the whole process of knowledge incubating. Moreover, when it comes to the depth of the case study, the research will be studying the newly built venture in the corporate incubator as a whole entity and the essential ingredients that will affect the success of knowledge incubation. Thus, a holistic case study will be designed to understand the key components and boundaries that exist in the corporate incubator. Therefore, considering the nature of the research topic and research questions and the representation and accessibility of the case, a single case study is chosen as the research method.

3.2 Site Selection

Whatnot Startup Studio is selected as the case for the study. As a startup studio, Whatnot Startup Studio provides corporate venture building (CVB) as a service. They help constantly incubate new ventures as an autonomous and agile business unit within the corporation. Corporate venture building is a bootstrapping process that builds and sustains numerous innovative venture ideas simultaneously in a short period and then chooses the most promising ones to be developed further. (de Alvarenga et al., 2019) The well-incubated ventures can potentially bridge the gap between corporations' current

operations and their future innovation success. CVB is an approach to incubating and adapting new knowledge beyond the existing knowledge base and its inherent capability in corporations. By collecting data from different stakeholders participating in the corporate incubator, the researcher understood the essential components of the knowledge incubation process.

Whatnot Startup Studio is a venture building (VB) company founded in 2018. It locates at Knowledge Xchange Center, one of Thailand's largest innovation centers and startup ecosystems. Whatnot Startup Studio is a small enterprise with around 15 to 20 full-time employees. They are developing seven startup ventures in-house and with corporate clients; these ventures are in the different stages of venture development, covering the ideation stage to the go-to-market stage in various industries.

As a corporate venture building service provider, Whatnot Startup Studio plays a significant role in the corporate incubator as a facilitator. While the corporate incubator acts as the knowledge hub, Whatnot is the key orchestrator who engages and connects stakeholders inside and outside the parent company and integrates various resources into the corporate incubator. They drive the whole venture-building process and help build the incubator for corporate clients. They facilitate the knowledge development process in the corporate incubator. With the knowledge of corporate venture building, Whatnot understands the methodology of venture building and how to apply it as a vehicle to accelerate corporate innovation and knowledge incubation in the organization.

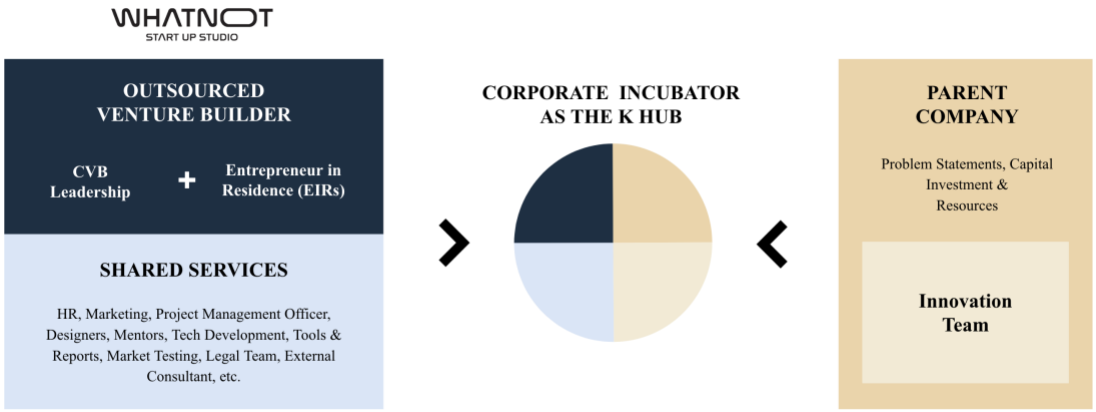
As a venture-building facilitator, Whatnot needs to integrate and allocate resources, including human resources, infrastructure, and financial resources, to enable knowledge incubation in the organization. These resources cover different components that contribute to the knowledge incubator. Typically, there are different parties mainly involved and contribute to knowledge incubation in Corporate Venture Building (CVB) (Figure 3.1), which are:

1. Whatnot Startup Studio: act as the outsourced venture builder in the corporate incubator, providing CVB leadership from the Whatnot management team and Entrepreneurs in Residence (EIRs), participate as the leaders of venture development. CVB leadership team is the management team of Whatnot, acting as the facilitator to oversee the whole landscape of the knowledge incubating process, providing clear goals and objectives, allocating resources to the corporate incubator, and consulting on the process. They mastered the methodology of knowledge incubation and made sure the knowledge was transferred to the EIRs. EIRs are involved in all the routine work of the venture-building process and are the leaders and enablers of knowledge incubation. They work with the team from the corporate incubator daily, managing the knowledge of individuals in the incubator and leveraging resources to achieve venture success and maximize the outcome of the venture-building process.

2. Shared service providers: The shared services support the venture-building process at the back end. These services include internal and external services—Whatnot internal resources including HR, marketing, project management officer, and designers. The external shared services include other vendors from Whatnot's network, providing mentors, tech development, product testing, and legal service. Together with the Whatnot internal shared services, they are the infrastructure of the venture incubation.

3. Parent company: while Whatnot provides the infrastructure and methodology of the CVB process, the parent company provides capital investment and financial resources to the ventures. The parent company also assigns the innovation teams from their current organization structure to join the corporate incubator and build the business together with EIRs from Whatnot. The employees assigned to the incubator have very diverse backgrounds in IT, logistics, and marketing, and they bring in different sets of knowledge and disciplines to the corporate incubator.

Figure 3.1: Corporate Incubator Players



All four parties mentioned above will contribute their knowledge to the new entity in each new startup venture, and members will share their expertise and proficiency in the corporate incubator. Therefore, this multi-disciplinary team must quickly build a new venture and work together towards one mutual goal. Besides, unlike the typical project-based team, in case of the venture's success, the new entity build will spin-off and operate as an independent company, and the team will become the founding team. Therefore, this knowledge incubation process will not be a temporary team working on one project for only a short period. In this case, the team will inevitably face many challenges and obstacles when building new ventures during the knowledge incubation process.

When dealing with diverse backgrounds and knowledge bases, the boundaries would occur in many aspects, such as different knowledge domains, cultural differences, language barriers, and working habits. The team assembled by the corporate client usually is formed by different business functions in the original organization. For instance, some teams might have employees from the logistic, IT, and procurement departments, and the original job function and knowledge bases of all these members are entirely different. There is very little shared knowledge boundary among them. Moreover, the corporate incubator is a tool that allows companies to experiment with new technologies, business models, and offerings. This nature of the corporate incubator

would require people joining the incubator to understand building a venture or business in general and quickly acquire knowledge of the newly built business and the venture building process. As a knowledge incubation facilitator, Whatnot would need to ensure that team members in the corporate incubator would quickly acquire and leverage new knowledge of venture building and fill the gap of different levels of understanding in venture incubation among the team members.

Apart from that, since this knowledge incubation process involves internal and external stakeholders, the facilitator of the corporate incubator needs to educate and transfer the knowledge about venture building to all stakeholders. When the external members and the innovation team from the corporate clients get involved, it is more crucial for the facilitator to set a clear goal and keep everyone on the same page. In addition, there is no best or standardized practice for incubating a startup, so every knowledge incubation team would have their way and process to build and lead a venture. Thus, as the facilitator, Whatnot needs to articulate well and deliver the goal and objectives to each stakeholder to ensure a mutual goal and understanding are shared among all involved in the knowledge-incubating process.

In addition, cultural difference is also an unavoidable challenge in this case. Whatnot Startup Studio is a multi-national organization with employees and partners from different countries and cultures, such as Thailand, Lithuania, China, Singapore, and Germany. Cultural differences and clashes, language barriers, and working habits in different societies lead to communication difficulties in a multicultural team, especially during the COVID-19 pandemic when face-to-face communication cannot happen. People intend to share their knowledge with those with whom they spend more time, and knowledge sharing and transfer often rely highly on employee relationships. Closer social relationships can help reduce the boundary within the team. The language barrier is another obstacle that slows down the knowledge incubation process. Speaking the same language and vocabulary is required in collaborative knowledge creation. However, spontaneously getting people to engage in knowledge activities is not always easy,

especially from different cultural backgrounds. What affects this is the willingness to share knowledge and the motivation to absorb the knowledge transmitted from others. It is sometimes quite challenging to get people engaged in the knowledge transfer process even when it is accessible, while culture plays a significant role in this circumstance. Thus, creating a common language and vocabulary and building the relationship to motivate intuitive knowledge sharing in this multicultural environment would become another indispensable ingredient for knowledge incubation.

Moreover, knowledge incubation often happens more in the large corporation where the original business has already reached specific scope and has a significant market domain. When those companies want to enable corporate innovation in a new segment or industry, it is impossible to transform the whole business into a completely different animal. In this case, a corporate incubator will allow the corporation to incubate new knowledge beyond the current domain and expand the business to an entirely new field. Currently, Whatnot is building four startup ventures with one of Thailand's largest real estate companies. The real estate company aims to build its corporate incubator in the next stage by testing the first two batches of startup venture development. In these traditional industries like real estate, there is already a well-established process and organizational structure that would not be easy to change. Therefore, knowledge incubation would be the vehicle to achieve innovation in the newly emerging industries and generate knowledge in a new domain in the fast-moving era. The corporate incubator allows this company to acquire and generate new knowledge from the organization’s corporate level and individual level.

In the corporate incubator, several ventures are usually being built simultaneously, so knowledge sharing across different teams is also crucial to the success of knowledge incubation. People can help and support each other with diverse skillsets and knowledge across different venture teams. Whatnot Startup Studio would be the facilitator and orchestrator to enable and encourage all the stakeholders to join the knowledge-sharing. Also, as a venture builder, Whatnot is like a knowledge factory. They

must acquire and accumulate many knowledge assets over a short duration, maximize the usage and value of their limited knowledge, and assemble the knowledge to build rapidly growing business ideas. Therefore, when dealing with the four parties involved in the VB process, the facilitator needs to encourage and stimulate spontaneous knowledge sharing in the incubator among different members and teams to accelerate innovation. Effective knowledge sharing can become the catalyst for knowledge incubation in corporate innovation.

However, Whatnot Startup Studio and the newly built ventures in the corporate incubators are highly adhocracies and autonomous knowledge-intensive organizations. At the same time, the parent companies usually are traditional Thai bureaucratic organizations. This situation caused additional problems and barriers that avoid transferring knowledge between different teams due to cultural and work habit differences. Communicating and educating the startup concept to the corporate employees is difficult. Members from the corporate innovation team have typically been doing traditional corporate work in their whole precious experience. In this way, it is challenging to educate them on the venture-building methodology and lead them to build the fast-growing business idea and incubate knowledge in the knowledge domains that are entirely new to them in a short period. The competency trap is also existing in the corporate management team. Since Whatnot mainly collaborates with large corporations, and those clients are usually the leading companies in the local industry, they typically have the customary regulations and working system. However, building new ventures might be different from what they are experts at and used to doing. It also takes time and effort to transfer adequate knowledge from Whatnot to their corporate clients. While the corporate clients are the key decision-makers in the venture development, this brings more difficulties to the corporate incubator to build the fast-growing venture. Even though the big companies invest in venture-building activities, they usually still stick to the corporate working process they are good at in their core business. Still, these approaches are not suitable for the startup environment.

3.3 Data Collection & Analysis

The researcher will follow the data triangulation by collecting data from multiple sources, including interviews, observation, and documentation. The convergent and corroborative findings from multiple sources help increase the construct validity of the research. The evidence from various sources essentially provides many perspectives on the same phenomenon. (Yin, 2009)

First, the researcher conducted ten semi-structured interviews with stakeholders from different positions and parties in the venture building and knowledge integration process. The goal was to allow the participants to share their experiences and opinions on what they have gone through during the knowledge development process in venture incubation and get more profound insights from different actors without leading them towards the presupposed answers. The researcher also conducted lengthy interviews with interviewees in the leadership position of the startup incubation process to get more in-depth insights and detect the phenomenon's root causes. Diverse ideas and perspectives from different roles and functions in the venture-building teams contribute other points of view and experiences. This also helped the researcher navigate and spot the boundaries and hidden issues in knowledge development reflected and demonstrated in actual cases.

The interviews were conducted within both ongoing and terminated ventures to investigate, explore, and identify the critical success and failure factors. Different roles in the ventures will also be interviewed. (See Table 3.1)

1. Entrepreneurs in Residence (EIRs) are the key person leading the whole team in the venture building activities; venture supervisors, the management team of Whatnot Startup Studio who oversees the ventures and supervise all the ventures to ensure the ventures are under development, are profitable and scalable.
2. Whatnot management team supervises the venture development process. As the corporate incubator facilitator, it provides consultation and advice on the

methodologies, necessary tools, business models, and all aspects of the business venture.

3. Venture team members are involved in each venture's daily operation and startup development.
4. Project managers facilitate and coordinate internal resources and external parties for the flawless execution of ventures.
5. External service providers provide services and support needed by venture teams such as tech development and marketing.

Table 3.1: Role of the Interviewees

Role/Position	**Ongoing ventures**	**Terminated ventures**	**Venture leadership**	**Whatnot shareholder**	**Total**
EIRs	1	1	-	-	2
Whatnot Management	-	-	2	1	3
Parent Company Members	1	-	-	-	1
Project Managers	1	1	-	-	2
Shared Service Providers	2	-	-	-	2
Total	5	2	2	1	10

Besides, observations have also been undertaken. The researcher will conduct two types of observation: direct and participant. The researcher will also attend the working sessions of different ventures, such as weekly retrospective meetings, daily stand-ups, and all-hands meetings, to observe the dynamics within and across other venture teams. By looking at the phenomenon from a third-party perspective, the researcher was able to

identify the venture team's challenges in the incubation process and the corresponding solutions. In addition, when multiple stakeholders from different disciplines and specialized domains are involved in the startup incubation process, how do the venture teams effectively identify the boundaries, smoothly communicate, and collaboratively solve problems with different departments. Moreover, participant observations were also undertaken. The researcher also participated in some working sessions and workshops with the venture team to have a more immersive experience and observe the phenomenon from a different point of view. This participant observation also allows the observer to have more casual interactions with the participants, which helps build trust with the team and reduce respondent bias.

Lastly, the researcher collected data by reviewing the documents from Whatnot and the venture teams, including project proposals, plans, pitch decks, monthly venture reports, internal communication newsletters, co-working working files, etc. The previous sales and public relations materials such as blogs and public relations interview articles have also been reviewed. The study aims to understand how knowledge has been developed throughout the venture-building process, analyzing the challenges of the incubation process and how knowledge boundaries are managed and negotiated within and across different innovation ventures and actors. In addition, to explore how the venture teams have overcome the challenges throughout the journey.

Data analysis in the research has followed the *grounded theory* (Glaser & Strauss, 1967) strategy. With the constant comparison of collected data from multiple sources, the researcher iteratively induced and developed conceptual theories and lifted the data to a more abstract level. By identifying the similarities and differences between data collected from different interviews and records and the concept concluded from various sources, more concrete and abstract theories have been revealed and induced, and it ultimately reached theoretical saturation. The researcher ensures the verbatim transcription of the interview dialogue is recorded as the essential part of the research evidence immediately after the interviews. Numerous of these data have been documented and saved in the

research database after each data collection activity.

Furthermore, the researcher applied three-stage coding as a part of the inductive strategy. This three-stage coding starts with the *open coding* by describing the transcripts with relevant annotations in descriptive words, phrases, or short sentences. The result is a list of codes, along with detailed notes explaining the content of each code, which will then be categorized in a database. Second, *axial coding* links the codes and categorizes concepts to each other, identifies the similarities and differences, and explains the patterns of these conditions, context, and consequences. The researcher expects to develop a construction of theories, or a theoretical framework, resulting from axial coding. Finally, *selective coding* was conducted to integrate all categories and select the core category of the study as a central theme. All other categories will be grouped around this core theory. A storyline has been built around this core category that ties all different categories into a coherent narrative.

3.4 Validity and Reliability

To secure construct validity, the researcher applied data triangulation by collecting data from multiple sources in this study, including interviews, observation, documentation, and archival records. The convergent and corroborative findings from multiple sources can help increase the construct validity of the research. (Yin, 2009) Besides, the researcher also managed to establish and maintain the *chain of evidence* when analyzing collected data, strengthening the case study's construct validity and reliability. (Yin, 2009) It ensures that the ideas from the initial research questions will lead to the case study's final findings. This chain of evidence is a multidirectional derivation from case study questions (see 2.5) to the ultimate findings (see chapter 4). First, the research findings have been extracted from the case study database, including specific documents, interviews, or observations. Second, these sources of evidence contain highlighted phrases or words in the collected and recorded documents. The database also demonstrates the circumstances of evidence collection, such as the time and

place of interviews. Third, the researcher created the data collection protocol (Appendix A) as a guide for data collection, mainly interviews, to show that data collection procedures followed the guidelines outlined and specified in the protocol. Lastly, the researcher tried to ensure that the protocol questions were linked to the initial research questions.

Moreover, to strengthen the internal validity, the researcher followed the *grounded theory* (Glaser & Strauss, 1967) strategy when analyzing the collected data. (Yin, 2009) The three-stage coding was conducted. The researcher interviewed different stakeholders to gather diverse perspectives on the venture-building process, followed pattern-matching logic to identify and summarize patterns and relationships among the data, and further developed more concrete and abstract theories, thus enhancing the study's internal validity.

For external validity, the primary research question, *"How does startup incubation through corporate venture building create and develop knowledge?"* is stated in a "how" format. Such questions are more likely to result in generalizations, that is, findings that can be applied to a wider variety of cases, aiming for external validity. (Yin, 2009) An in-depth literature review was also conducted and repeatedly referred to during the data analysis in this study. Furthermore, as the corporate venture-building model often happens within the established corporations in the traditional industry, the selected case is a corporate venture-building program between Whatnot Startup Studio and its corporate client, one of Thailand's largest real estate companies. Given that, this case can commonly represent and reveal how the knowledge management process happens in the corporate incubator and the inception of a startup venture.

Lastly, a case study database and a data collection protocol were created to ensure the reliability of the research. The researcher ensures the verbatim transcription of the interview dialogue is recorded as the essential part of the research evidence immediately after the interviews. Numerous of these data have been documented and saved in the research database after each data collection activity. The researcher has continuous

involvement with the case site, seeking clarification with the respondents and keeping in touch with them to check the accuracy of the researcher's interpretations. Ask for clarification on the confusing or missing parts and conduct follow-up interviews if needed. While being conscious of the previous knowledge based on the theories learned from the literature review, the researcher will also debrief findings with peers and collect feedback to avoid the researcher's bias from the precious knowledge and assumptions.

CHAPTER 4
FINDINGS

This chapter covers the three main parts of the research that address the primary and sub-research questions proposed in the previous chapter:

1. A demonstration of how knowledge creation has been initiated and developed in the early stage of startup incubation through corporate venture building.
2. The challenges and barriers different players in the corporate incubator have faced in knowledge developed during the incubation of new ventures.
3. The reactions and strategies that different players in both Whatnot Startup Studio and the corporate incubator have developed and implemented to respond to and overcome these challenges in venture incubation.

With the introduction of Thailand 4.0, many Thai enterprises, especially the large established corporations, have an increasing demand for innovation, providing fertile soil and opportunity for the development of corporate venture building. As an emerging approach to corporate innovation, the exploration of CVB has played a critical role in reshaping business transformation and innovation in the corporates. The demands of breakthrough innovation are rapidly emerging as essential components to aid the development of new ventures. Companies must explore and create new knowledge to seek new paths for growth and renewal opportunities beyond conventional new products to adapt to the change to sustain the innovation capacity and competitive advantage in the long run. (Robeson & O'Connor, 2007) Unlike the company's traditional product R&D process, startup incubation in the organization requires a different path of knowledge management. This research explores and demonstrates the knowledge management flow in the corporate venture building process and examines the critical role of knowledge management in the corporate incubator that affects the outcome and daily activities in the

venture development. The findings of this study contribute to the knowledge management literature by offering an empirical and in-depth perspective of knowledge management in the context of corporate venture building or corporate incubator.

4.1 How Does Startup Incubation Initiate Knowledge Development?

4.1.1 Establish the Knowledge Hub

As one of the first movers in Thailand, Whatnot Startup Studio has been initiating and implementing the Corporate Venture Building (CVB) model with several large corporations in Thailand across different industries. As the CVB model is still relatively new in Southeast Asia marketing, Whatnot has been pioneering in implementing their startup knowledge accumulated from previous experience in other regions, and countries to the CVB activities in the Thai established corporations. Kötting (2019) defined a corporate incubator as the knowledge broker between ventures and existing business units of the parent company, selects and develops ventures to generate and transfer knowledge between these two parties. As knowledge brokers, they identify the available knowledge in the corporate, understand the need of different knowledge workers, and build the connection to make it more accessible. (Davenport et al., 1998)

The corporate incubator can also be identified as a corporate “innovation hub” or a “knowledge hub”. It is the venue where the parent company develops new products, services, or organizational processes. Various knowledge bases are gathered to create and incubate new knowledge. Diversity is needed among the team of innovators, while this diversity may not come from one individual but a cross-functional or cross-disciplinary department or different organizations. This knowledge integration can result in a deeper understanding of the phenomenon, leading to a more holistic concept and venture. (Newell et al., 2009) Through a multi-direction knowledge sharing and transfer, they exploit and explore knowledge by leveraging the accessible resources from different parties, integrating, and creating new knowledge. As the central place where knowledge

incubation occurs, the corporate incubator would facilitate knowledge sharing, transfer, and integration among all stakeholders, both internally and externally.

Whatnot's CVB process involves three major players: Whatnot Startup Studio as the outsourced venture-building facilitator, the parent company that owns the corporate incubator, and shared service providers. These three parties collaborate and contribute their knowledge sets to build new ventures in the corporate incubator. As illustrated in Figure 4.1, the corporate incubator's knowledge flow started with the venture core team's knowledge exploitation and exploration (March, 1991) in the venture core team. The core venture team consists of the corporate team members from the business units recruited by the parent company's innovation department and Entrepreneurs in Residence (EIRs) recruited by Whatnot Startup Studio. To trigger the venture-building process, they need first to understand their existing knowledge base, scout suitable talents inside the parent company to join the innovation department and recruit EIRs with entrepreneurial experience outside the parent company to lead the venture.

In the corporate incubator, the venture core team comes together and works as a cross-functional team. The incubation process often involves several stakeholders with various backgrounds, and speed and agility are essential for innovation in venture development. The corporate team members are from the parent company's business units and departments, such as procurement, marketing, design, sales, etc. The EIRs are from the startup industry with entrepreneurial experience and mindset. This diverse background and specialist allow the team to identify customers' pain points and share ideas from different angles.

4.1.2 Identify Goals & Objectives

As the corporate incubator sponsor, the parent company needs to outline corporate innovation objectives and define a clear governance structure in the operation of the corporate incubator. The parent company also provides the central resource of infrastructure and funding for venture teams, and they're expected to take risks and view the CVB program as a strategic investment. In addition, the parent company should

contribute its industry knowledge and network to the corporate incubator, human capital, and any other required resources. Meanwhile, as the outsourced venture builder, Whatnot would introduce its startup knowledge and methodology to the corporate incubator, lead and help cultivate the entrepreneurial and startup mindset in the corporate incubator. They identify, adopt, and create new technologies to help them stay ahead of the parent company's goals. Whatnot has access to technology, disruptive business models, entrepreneurial talents, and the startup ecosystem. They also approach the share service providers who mainly provide domain-specific knowledge of their expertise and on-demand support to the team, such as marketing, tech development, design, etc.

The corporate incubator must identify clear objectives and goals to initiate corporate venture building. Mutual agreements need to be agreed upon among different stakeholders. Defining clear roles and responsibilities of each player in the corporate incubator is also necessary. It is essential to align the plan with the ultimate goal and vision of the venture team.

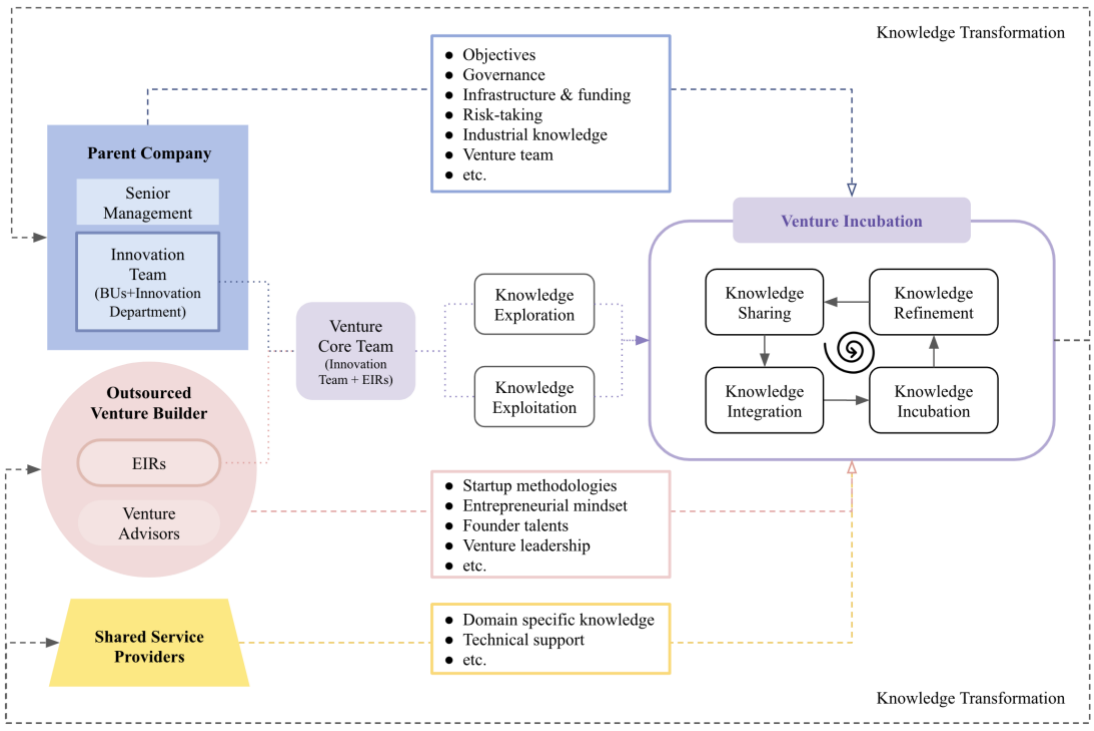
> *"Not a short-term goal, but like the dream goal for this venture. Because when you are building this venture, I really believe you got to love the idea so much that you want to sacrifice everything for it, and just let me know your biggest dream of it. It's part of the strategy. And then, if we have this kind of alignment for this way, I can tell that. If I know to be the ultimate, their highest dream of the product owner, I can ensure and keep planning all this stuff more clearly. So, after that, I can work backward on it."*

A mutual agreement within the team would help establish mutual respect in the group regarding the specialties of each player. This identified objective determines the innovation goal and points out the purpose, direction, and expectation for subsequent knowledge creation.

4.1.3 Knowledge Incubation

From the parent company's perspective, corporate venture building can first be an approach to improve and refine their existing product and services and seek better alternatives. Exploiting knowledge and refining the current competencies improve immediate performance. (March, 1991) They assign their employees with specific industry knowledge and domain expertise to join the corporate incubator. By injecting the startup mindset and methodology from the outsourced facilitator like Whatnot Startup Studio, the parent company enables knowledge exploitation and acquisition of existing employees to achieve their goal of innovation. Meanwhile, by co-creating with the outsourced venture builders with the startup background and knowledge, the parent company will be able to explore their knowledge and grow capacity in the new domains, encourage entrepreneurship and cultivate business knowledge for their employees through the corporate incubator.

Figure 4.1: Knowledge Development Process in Corporate Incubator



Through the core venture team's knowledge exploitation and exploration process, several business ideas will be created through the ideation phase. Once the venture ideas have been formed that address the problem statement given by the parent company in the core venture team, the new business ideas will be developed into more concrete ideas, and prototypes will be created to test with the market. More players will get involved in the process and participate in the venture-building process in the corporate incubator. By then, the corporate incubator would require more intensive knowledge management to develop and incubate the newly built business venture. In this phase, the corporate incubator would act as an innovation hub that allows different stakeholders in the CVB process to plug in their knowledge to test the prototype and develop the venture. Each stakeholder will contribute knowledge from their respective domain expertise to the corporate incubator, unlocking collaboration and synergies between the corporate environment and the startup world.

Speed and agility are also essential for innovation in venture development, so the process's knowledge development in the corporate incubator often needs to be through several lean iterations. Knowledge management activities and the knowledge incubation process must happen consistently and iteratively in the corporate incubator. The knowledge sharing will happen in each venture team among different parties, and the innovation team will assemble resources and knowledge to develop the functional product to test the idea. The knowledge will be integrated as a new entity in the venture team and incubated and refined to become more concrete ideas. The process will involve many rounds of iteration, and in each round, the knowledge acquired will go deeper and deeper in a spiral-like (Nonaka, 1994) manner in the given scheme. Finally, the project team will hatch the new knowledge in the incubator, eventually leading to a newly built standalone venture. The freshly developed knowledge will be transformed back to all the parties involved: the parent company, Whatnot, and the shared service providers. Ultimately, the successful spin-off venture might disrupt or transform the original business into an entirely new marketplace and potentially transform or even disrupt the original business.

4.2 What Challenges Does Knowledge Incubation Face?

Once the processes for incubating newly created knowledge and the flow of knowledge between different stakeholders in a corporate incubator have been identified, the main challenges confronted in these processes will be demonstrated in this section. This leads to sub-question 2: What challenges does knowledge incubation face? This section consists of obstacles and barriers from five angles throughout the knowledge incubation process in the inception of startups.

4.2.1 A Lack of Clarity

4.2.1.1 Vague objectives and unaligned vision

First, the researcher has observed that the parent company often does not entirely understand the objectives and scope they expect from the corporate innovation department, especially when it lacks startup and innovation knowledge. As the key decision-maker, the parent company lacks startup knowledge and experience in innovation. They initiate the venture-building program by setting the goals and objectives in the "corporate way." They started without fully understanding the scope of work. Without a comprehensive understanding of the startup, such as its needs, goals, procedures, and risks, this approach can result in problems later. Besides, due to the lack of knowledge about startups and the corporate way of working in the minds of the parent company's employees, it is challenging for the startup facilitators to effectively communicate the "startup way" to these employees and ensure they understand their ideas. Therefore, the corporate incubator's goals and agenda are unclear, and the expectation is vague, making it confusing for the venture team to have a clear direction to set up the vision and goals.

The initial innovation ideas are not differentiated from the traditional R&D in the parent company, and the parent company forced ideas for the venture team to execute. Those ideas were not quite breakthroughs but rather incremental improvements to the current business solutions. The objectives of the corporate incubator and venture ideas are decided and pushed by the top management of the parent company. This top-down

structure has limited freedom in knowledge creation and venture innovation. In the case of Whatnot's corporate venture building project, the initial goals and objectives of the corporate incubator are also not aligned between the parent company and the outsourced venture builder.

From the parent company's perspective, since the whole concept of innovation in Thailand has not matured, while the major corporations are promoting innovation, it makes the parent company panic with the upcoming disruptions brought by industrial innovation. As the saying goes, "innovate, or die." The parent company, thus, aims to build the innovation image to respond and follow the innovation trend and resist disruption by trying something different from their domain expertise. The in-house corporate incubators exist solely to improve and boost the company's public image as an innovative organization. This ambiguity and superficial understanding of innovation lead to fragile objectives, infeasible goals, and impractical action plans. Mutual agreements between the parent company and various stakeholders are ineffective when formulating strategies, communicating development direction, and conveying expectations to all concerned parties.

> *"I think it's about trends and being scared of change in the sense of big corporate. They start to see that digital disruption is disruption. They don't know what to do and become panicked and don't do it properly."*

> *"Most companies do innovation because they know that if they don't change, they will be left behind."*

Also, due to the innovation objectives being unclear and inconsistent from the beginning, the parent company cannot provide precise guidance and expectations to the ventures. The requirements from the committee members and key decision-makers are

also constantly changing, which might confuse the venture teams and outsourced venture builders like Whatnot.

> *"We asked a lot for the project because it seemed they said one thing, but they actually wanted something else. So what we proposed and agreed on was to build startups that would satisfy the expectations of the board, the owners, and the management team to achieve a return on investment. So that was what was articulated. So then I was trying the whole project to steer in the direction where it would deliver some financial results. But it turned out awful. It turned out awful because these goals were changed every meeting."*

Furthermore, the core venture team composed of people with different backgrounds and specialties may experience difficulties exploring and investigating the knowledge base of other team members, resulting in different visions for everyone involved. The vision inside the venture team is also not aligned among the team members. The objectives and vision are sometimes varied and conflicting in venture teams. Because of various reasons, people in the core venture team have different visions and perfectives of their products, which sometimes would cause problems and difficulties for further product development and testing. It will also be difficult for the service provider to accurately understand and deliver the team's needs. One of the service providers indicated, *"What I learned is that you could not just ask one person about the products. Because when I asked the venture team, they all had different visions. Like something might be slightly different, but in the end, people still do not have that same vision for the products."*

While this multi-background team brings a diversity of expertise and specialties to the venture, the knowledge boundaries between different professional understandings will also be brought along. Under this circumstance, these diverse understandings and perspectives of the product might lead to different visions for everyone in the venture team. In addition, due to the team's knowledge boundaries and knowledge gap, each

individual with their unique knowledge set might not be aware of the different visions existing in the group since it's not the area of their specialties. These knowledge boundaries would cause more difficulties in investigating what they don't know about what they don't understand in the collaborative knowledge creation activities.

Moreover, since the venture team is usually a temporary, newly established team, and each member still has a full-time job in the parent company, they cannot contribute and dedicate enough time to the new venture. The team members also have not been able to build enough trust in the early stage of the project, so there will be a lack of communication in the team. This lack of communication in the core team caused more difficulties for the team to align the vision and agree upon the ultimate goal of the newly built venture. Sometimes, the slightly different pictures might cause more issues and problems for the team in further knowledge integration and venture development.

4.2.1.2 Unclear roles and responsibilities, confusing management structure

The corporate incubator’s knowledge creation and incubation process is a collaborative activity among many different players from the parent corporation’s internal and external entities. Thus, clearly identifying and deciding on the roles and responsibilities of each party is essential for this collaborative knowledge incubation. However, when gathering different team members with various backgrounds together to work on the same venture, it takes time to identify the capabilities of each team member. Due to the level of the startup knowledge of different players are differed, it is hard to identify the exact roles and responsibilities and set up boundaries that might potentially limit innovation in the team. In addition, with the resource and human resources constraints in the startup environment, from the initial stage, team members are expected to wear multiple hats and have multitasking skills. This leads to unclear roles and responsibilities in the core venture team. Besides, since the venture team members from the corporate still have their primary jobs in the parent company, it is hard to dedicate their time to the new venture. This makes it even more challenging to decide on the roles and responsibilities and stick to them when executing the plan.

In addition, the governance and management structure is also always confusing and chaotic. Due to many stakeholders involved in the corporate incubator, each has its management structure and government, respectively. It is hard to agree upon and align the government structure in the new venture teams. In the case of Whatnot, the parent company still hold most of the decision-making authority. Regarding decision-making, the venture team needs confirmation from the parent company. However, the parent company's management level is not directly involved in the venture-building process. Besides, each corporate team member still has their main job in the parent company. Their decision-making would also depend on their supervisors in each business unit, making it even more confusing without a clear governance structure. When autonomy and decision-making authority are not transparent or without a mutual agreement, it becomes more challenging for the venture team to clarify the direction of communication and venture development. Communication can become muddled when venture team members lack clarity about who has what decision-making authority.

4.2.2 Knowledge Boundaries

Most innovations occur on the boundaries between various professions, indicating that working across boundaries is an essential factor in competitive advantage. It is also why innovation is challenging to create and maintain. (Carlile, 2004) The CVB process requires stakeholders and players with various backgrounds and knowledge bases to work together to develop and incubate new ventures and knowledge. It has been found in this study that members of a corporate venture team usually lack basic business knowledge, knowledge specific to the business nature of each product and venture, domain-specific knowledge, etc. These diverse backgrounds of knowledge bases and different levels of expertise in various domains have led to knowledge boundaries and gaps between different players. Knowledge boundaries may be difficult to be managed when knowledge accumulations vary significantly for different players involved in the venture team. Given that, knowledge management may face some unavoidable challenges in business incubators.

4.2.2.1 Lack of required knowledge

Lack of knowledge in specific areas is one of the reasons that has led to unconquerable knowledge gaps between different parties. When it comes to managing knowledge boundaries, different levels of accumulated knowledge in a specific field have made it difficult for knowledge transfer and knowledge transformation across various players involved in the venture team. One of the most common challenges new venture teams have faced is that their team members lack the requisite experience and knowledge to run the new business. First, shifting from a corporate job in the business units to the startup work in the new venture team, most of the corporate team members did not have any experience running a startup or business in general. Thus, their fundamental business knowledge is lacking when they jump right into the venture-building process. In some venture teams, no one understands how to run a business, design the business, the necessary parts of operating a new venture, etc. This basic knowledge is hard to be trained purely through learning by doing. A particular basic understanding of business is required to initiate the project.

Moreover, some members have some basic knowledge, but they only understand business in theory and still lack practical or field knowledge in business operation. Sometimes knowledge might work in theories but not in reality, but most team members do not have enough experience to implement theories in actual circumstances. Also, when the venture team members do not have enough experience or a deep understanding of the fundamental part of knowledge, they tend to simply follow the formula of doing things taught in the textbook. However, people tend to skip the fundamental part of things in many circumstances and start trying to understand more complicated knowledge without understanding the basic knowledge. It also takes time to understand the principle and fundamental part of the knowledge deeply. Still, once people know the fundamentals, they can quickly expand to a more extensive range of knowledge. However, most team members do not have the mentality for this.

In addition to basic business knowledge, the lack of knowledge specific to the business nature of each venture or product is another critical pain point and issue that teams have been facing. It has been identified that the venture team lacks understanding of their business and basic knowledge of the nature of the business. Because venture building often happens in a new domain and market outside of the current knowledge base that the team has. The team is exploring a new market domain and acquiring related knowledge in a limited time, making it difficult to quickly build a new business and find the key differentiation from the competitors. The situation is especially challenging when probably none of the team members have had experience in that field or network in that industry to consult with. Besides, as an innovation project, the venture idea is probably too niche, making it even more challenging to obtain specific information and knowledge in that domain. It takes more time to study the market and understand the customer needs. In this case, the team would struggle to develop products within the venture team and articulate their needs to the service providers.

Without an in-depth understanding of the product and detailed knowledge of the venture's operations, it is unattainable for the core venture team to manage the venture development effectively. The team must be able to articulate their goals and needs to their service providers to get what they want. However, if the venture team is not sure what they want, they would not be able to communicate this to their service providers, so they cannot work collaboratively to overcome the challenges and produce any satisfactory outcome. Additionally, if the team has a clear and solid understanding of their product, they might not need to build a full version or finished product. Instead, they can speed up development by testing the idea with a prototype or minimum viable product that can be tested in the market, saving money and time. It would be a waste of resources and will not generate any salvage value but instead become the sunk cost.

Likewise, when the team does not have sufficient knowledge of the product and the business they are operating, they tend to change the business model too fast without understanding exactly where the issues and causes are. They sometimes simply put their

assumption of the problems that occurred instead of approaching the actual users to get insights. They change the business model purely based on theories and assumptions, but their knowledge is insufficient to support this. They built prototypes to test with the customers, but they did not really use them, so the prototypes became a waste of resources and would not be used again once the idea changed.

Another challenge for the venture team regarding the knowledge base is their limited domain-specific knowledge in different functions such as marketing, finance, and software development. While the venture team's broad knowledge base will serve them well for a general understanding of a project, it may fall short when it comes to R&D, where domain experts are still needed to dig deeper into the knowledge. However, the team members neither have enough domain-specific knowledge nor access to the knowledge they need, even though some ventures are in the same industry as the parent company. Also, although different players involved in the venture have different domains of responsibility, they still need to have a certain level of knowledge in each area to communicate and appeal to various service providers.

This inadequacy of business and domain-specific knowledge and the insufficient understanding of venture investment of the team and the committee members have led to each venture's unrealistic assumptions and expectations. Although the team intends to create a viable business model and create quality products, they appear unaware of what they do not know, which has led to misconceptions about the difficulty and complexity of developing business and innovation. From the initial stage of the project, the team had set up unrealistic and unreasonable targets and KPIs due to the lack of practical experience and knowledge of running a business, and they could not anticipate an achievable target and result realistically. In addition, venture ideas are sometimes not feasible due to the lack of in-depth understanding of the nature of business. The team's inexperience and lack of knowledge have led them to set overly ambitious goals and visions for their business, and it is sometimes purely speculation. Eventually, the venture must be pivoted because the initial idea is unrealistic. The team needs to understand how things work in

the real world and set up goals and visions based on facts.

4.2.2.2 Investigate knowledge boundaries

With the increased complexity of the knowledge domain, it is more and more critical for teams to share knowledge. Nevertheless, sometimes, the team is unaware of what they know or do not know, so they will not be able to express their needs and exchange their knowledge with other team members. From the perspective of an EIR or third-party service provider, it would be highly problematic if they cannot understand what the team knows and do not know or whether the team knows something or not. Without getting feedback or questions from the team, it is hard to develop new knowledge dynamically. Also, it is hard to pinpoint where the problems are without communicating or asking why. Thus, how the team effectively investigates the knowledge of each person and manages knowledge boundaries between different members becomes a critical issue to be solved. Effective knowledge boundaries management can help parties involved in the venture-building process to understand each other better and maximize the value and capability of each party. This also boosts the speed of venture development in the corporate incubator, allowing for testing and improving the product within the limited time frame.

The knowledge gaps and boundaries in the corporate incubator exist within the venture core team among different team members and stakeholders involved in the venture development process, including the services provider, outsourced venture building facilitators, and management committee in the parent company, etc. It is challenging to keep everyone on the same page and speaking the same language to achieve the smooth development of a venture. When entering a new field beyond the knowledge domain the team accumulated from the previous experience, the knowledge scarcity would limit the knowledge base's self-awareness in the new area. This will also affect other players in the team to investigate the knowledge other team members have and identify the knowledge boundaries between each other.

These fuzzy boundaries between functions and professions within the venture team can also contribute to miscommunication or insufficiency of communication. Such communication issues would be exacerbated in innovation projects, where members need to stimulate and bounce ideas with each other as they proceed. By asking questions and bouncing ideas off each other, different players in the venture-building process would be able to detect and explore knowledge boundaries in their team. However, due to various reasons, such as different vocabulary and knowledge gaps, the venture team cannot understand each other most of the time. Hence, they are incapable of asking questions or bouncing back when they have not yet reached a certain level of understanding of the concept. This silent reaction often occurs in the co-working session and has hindered the dynamic reciprocity within the team and led to the stagnation of the venture development. It is also difficult for the team to either take the initiative or implement the ideas of following and consulting the tasks given by the specialists and service providers. As a result, the project often fails to progress. From the service providers' perspectives, it is also challenging to set up thorough and effective plans because they do not understand the business as adequately as the product owner or the venture team has, while the team is not providing sufficient information.

> *"Because like the idea of a consultant is to bounce back and forth with the team. The initial bouncing is okay; they just gave a point, and I bounce back, but there is no other bounce back. That is not what reflection and the loop are like because when I bounce something back, I bounce it in terms of the question. If you want to do this, it's this way, but is this really what you want to do for the market? My job (as a tech advisor) is to bridge the gap, but I would not understand the business as much as the product owner."*

4.2.2.3 Knowledge boundaries in the multi-culture venture team

The venture teams in the corporate incubator are often cross-functional, where

different professionals from different cultures and backgrounds come together to build one venture. In the case of Whatnot's venture building project, the core venture team consists of members selected from the parent company and members recruited by the outsourced venture builder. The team members assigned within the parent company also come from different business units and various job functions. Meanwhile, the venture teams are overseen and supervised by the management level from the parent company's innovation department running by local Thai, and Whatnot, the outsources venture-building experts running by the international team. When building a venture as a multidisciplinary team, conflicts and issues often arise from differences in background and culture of the various team members. Effectively managing the knowledge boundaries among different stakeholders has become important yet challenging.

First, the knowledge boundaries in the venture team occur at the syntactic level. Syntactic boundary refers to establishing a shared lexicon or syntax between sender and receiver that is sufficient and stable enough to ensure accurate communication and knowledge transfer across the boundary. (Carlile, 2002, 2004) One of the fundamental differences between startups and corporates is the language and vocabulary they each use, leading to the syntactic boundaries between them. Due to the dissimilarities in terminology and lack of shared syntax, boundaries can arise between participants from wholly different corporate structures. People from the parent company do not have much startup knowledge and often have difficulty understanding startup jargon and terminologies, while startup people do not understand corporate jargon and process.

> *"Like the startups do not have things like procurement. It does not exist. It exists in the way, but not procurements. Alternatively, for instance, corporates do not have sprints, retro, something like that. They do not understand why you need to be lean and move fast and fail fast like they do not understand that type of mindset."*

Moreover, in the specific case of Whatnot, the language barrier also contributes to the boundaries at the syntactic level, which might also affect the smooth communication between different parties. Whatnot management team members are English speakers, while the corporate clients are all Thai locals. The team tends to trust more and more likely to establish psychological safety with people who speak in their mother tongues. It is much easier to express their meaning precisely using their mother language. Besides, even though some roles act as a bridge or translator between the parent company and Whatnot, some information or knowledge often might be lost in translation, and the conveyed message may be misunderstood or miscommunicated. As an outsourced venture builder, Whatnot has experienced problems and struggled to communicate effectively with the venture team and hold ground, especially when they need to play a management and supervisory role.

Second, the corporate venture-building process has also recognized the semantic boundaries. A semantic or interpretive boundary identifies that different interpretations of meaning can lead to miscommunication and collaboration challenges even when using a common language or syntax. (Carlile, 2002) Generating a mutual understanding (Dougherty, 1992) or shared meanings can help reduce or eliminate the interpretive difference across boundaries. (Carlile, 2004) However, when attempting to reconcile different interpretations, there is more at stake in some cases than just translating ideas. It is a matter of negotiating and making trade-offs between conflicting interests and to political consequences achieve an agreement. (Brown & Duguid, 2001; Carlile, 2004)

The semantic boundaries are manifested in several different ways in this case. Apart from the different terminologies used in the corporate and startup world, some terms also mean differences in a different system. For instance, the financial projection of the startups works differently from traditional corporate finance, although the same name calls both. The financial department in the parent company helped the startup team make the financial projection in a “corporate way” rather than a “startup way”, which is not the appropriate practice in the context of a startup. Similarly, unlike the traditional R&D and

business units under the parent company that focuses more on developing and improving the existing products, the purpose of CVB is to build a new business. Instead of improving the productivity of production and reducing the cost, the corporate incubator aims to create new ventures that do not exist yet and can potentially help achieve the business transformation of the current business. It desires to have an aggressive growth in income. As a result, different interpretations of specific terms can often lead to confusion and conflict, especially between startup and corporate members.

In addition, to help solve problematic issues associated with the boundaries and differences between corporate and startup employees, roles such as Entrepreneur in Residence and Project Manager act as mediators or knowledge brokers (Davenport et al., 1998) to bridge the gaps between the two knowledge bases. With the help of outsourced venture builders with more startup experience and expertise, venture team members also gradually adapt their knowledge to the “startup way” of operating a business. However, it has proven difficult and challenging to negotiate ideally and efficiently translate all the needed messages to both sides due to several reasons, such as trust, seniority, and political issues.

Third, in a pragmatic view of knowledge, the knowledge boundary involves the transformation of knowledge among different domain specialists to allow them to work effectively together. In contrast, the diverse interests of various players need to be effectually negotiated to enable novelty at the pragmatic or political boundary. (Carlile, 2002, 2004) To a certain extent, the asymmetrical knowledge base of different stakeholders also affects the knowledge boundary at the pragmatic or political level. Knowledge developed in one party may lead to detrimental consequences for another when stakeholders' interests are in opposition or conflict. (Carlile, 2004) Since the beginning of the corporate venture-building program, the two major parties' objectives and ultimate goals have not been aligned. From the parent company's perspective, at the early stage of experimenting, most companies consider public relations (PR) as the primary factor and driver in their innovation endeavor. The objective is more intended to

be building the “innovation image” than the actual innovation. Bringing opportunities to diversify the current business is only a potential extra benefit or a windfall. Likewise, CVB or building the corporate incubator is merely an attempt to experiment with external innovation to see the pros and cons of this model and how it differs from internal innovation.

On the contrary, the outsourced venture builder has expertise in building startups and is far ahead in innovation and venture-building knowledge. From Whatnot’s point of view, their objectives and goals are to leverage their startup knowledge to help the parent company and lead the venture team to successfully build and launch new ventures, which preferably will spin off as standalone startups. They follow their existing set of methodologies to operate and supervise the team. However, successfully building a new spin-off startup might not yet be the parent company’s priority and aspiration at this stage. Additionally, at the individual level, most corporate employees have little experience with innovation or startups that differ radically from their current work, so they have little motivation and passion for involvement. Therefore, these unaligned objectives, asymmetrical knowledge, and indeterminate mutual interests have caused different stakeholders' pragmatic or political boundaries. It has also brought challenges to synchronize and unify the actions in the venture team when it comes to execution.

Knowledge at the boundaries is expected to be shared and assessed so that multiple fields can work together. (Carlile, 2004) However, in the case of the corporate incubator, different and unaligned interests and objectives among various stakeholders and team members often lead to a lack of motivation and dedication from the venture team members. This deficiency of motivation restrains the effective management of knowledge boundaries throughout the venture-building process and hinders the knowledge sharing and assessment at the boundaries. Venture building requires team members to have an entrepreneurial mentality and spontaneous problem-solving ability. Nevertheless, the corporate venture team members are not always motivated enough to take the initiative alone. Instead, they have got used to implementing the assigned tasks,

which is inadequate for building a startup. They must at least take the initiative to seek the necessary resources and solve problems by themselves. Additionally, since most team members do not voluntarily join the corporate incubator, they are not particularly invested in the business's success and do not care where the venture would grow. They are reluctant and unmotivated to improve the service or product constantly.

Besides, as one way to explore and obtain new knowledge in a new domain, corporate venture building requires a self-driven mindset and a sufficient self-learning ability from the participants. Entrepreneurship is not something teachable orally or can be trained in several sessions. Individuals must feel it through first-hand experience. Thus, the venture team members should be keen to learn and acquire knowledge spontaneously, share and exchange knowledge with other team members, and build the new venture collaboratively. Unfortunately, most corporate team members do not see the learning part as a reward but as a forced task to complete. They have no aspiration to learn and share knowledge, especially when the incentives provided cannot meet or satisfy their interests and needs. They view the venture-building activities in the corporate incubator as extra work or an unnecessary burden rather than a self-development opportunity to grow. They do not appreciate the non-monetary, non-intrinsic benefits when lacking a growth-driven mindset. Lack of ownership can also inhibit team members' motivation and dedication to the venture. Team members desire to possess ownership of the ideas and participate in developing ideas rather than merely being forced to accept a set idea or direction. However, due to the excessive control from the management level, the team tends to choose more safe ideas to build on, and sometimes the ideas are forced on the team, which is also a massive hit on motivation. The personal benefits of the team members cannot align with the business purpose.

Consequently, the lack of motivation slows down the whole process of venture development. Insufficient motivation has led to low contribution and engagement from the corporate team members throughout the venture-building process. They often cannot deliver the expected outcome or meet the goal even if they care about OKRs to gain

satisfaction from their direct supervisor in the business units. This low level of engagement led to a lack of interest in sharing knowledge among team members and exploring the knowledge boundaries of the other team members, which eventually led some team members to become passive and give up on the project. Some team members even disappeared or left the venture. Their lack of motivation has caused them to neglect the project for long periods or even drop out entirely, and the project was abandoned.

4.2.3 Bureaucracy of Parent Company

The previous research indicated that a pre-requisite for creating new knowledge in a trans-disciplinary knowledge generation is that participants require more decision-making power and autonomy and more opportunities to do things differently. (Newell et al., 2009) The parent company would more likely benefit from the corporate incubator when its involvement is moderate. (Robeson & O'Connor, 2007) However, the company has not always succeeded at granting the ventures in its corporate incubator the level of autonomy or freedom they need.

First, the parent company retains the central decision-making authority as the financial support. This leads the entire project to constantly cater to the parent company's decisions and interests, even though the initial purpose and intention of establishing the corporate incubator were to break away and be standalone from the bureaucracy and conventional rigid management structure in the parent company. Frequently, it is hard to avoid overcontrol from the parent company. The overcontrol from the parent company may lead to venture teams gradually losing decision-making authority, resulting in a reluctance to make decisions or eventually a total loss of decision-making ability. Rigid structures and bureaucratic procedures in traditional business units of the parent company are gradually injected into corporate incubators.

Additionally, as the primary source of funding, in the conventional point of view, the parent company has a relatively low-risk propensity. They tend to play safe to minimize the loss and failure rate as the investor. Thus, the parent company might fail to grant sufficient autonomy to venture teams to control the investment risk. The parent

company may be unable to escape the illusion of owning the funding. They see the budget used in the corporate incubator as a cost rather than an investment and inaccurately estimate and expect the risks they might face when innovating through building startups. Such a way of thinking inevitably leads to excessive control of the venture teams, adversely affecting the speed and restricting the agile development of startups.

As a result, the venture teams are gradually deprived of decision-making authority and become reluctant in decision-making or eventually lose decision-making ability. The rigid structure and bureaucratic procedure in the traditional business units of the parent company will be slowly injected into the corporate incubator. The venture team needs to stick to specific operation procedures of the parent company and get approval and feedback from the top management level in the parent company. In addition, the corporate management level might sometimes force ideas on the venture team, and the venture team loses the flexibility and freedom to innovate and build their ideas.

Besides, as the outsourced venture-building facilitator, Whatnot and the Entrepreneurs in Residence also lack a voice and ownership in the venture-building activities. They have been struggling with building trust with the parent company. It takes time to establish trust among different stakeholders, especially at the beginning of the program. The parent company might limit the decision-making power and assign authority to the outsourced parties. However, they are the ones who are leading the corporate incubator with their expertise in the startup.

This overcontrol and micromanagement of the parent company restricts the agile development of startups. It has caused a long and slow process in executing venture teams to the affection of the hierarchy from the parent company. The operation of the venture team needs to follow the procedure of the parent company since they are not fully operating separately from the corporate structure. They essentially get only partial freedom from the parent company, and the venture teams still need to go through all the processes the same as the business units. This constraint on flexibility and autonomy

brought by the rigid system has dramatically affected the speed and performance of the venture development. One of the Entrepreneurs in Residence indicated, *"We do not have much flexibility to run our business. I think it is the startup that had many corporations involved is it is very difficult to work at a fast pace as the fact that we want because we keep having to wait for them to approve."*

However, they still corporately make all these decisions, which further affects and constrains the growth of ventures. The startup environment requires venture teams to change, adapt, and move quickly. The venture team needs to validate and test the ideas quickly and move forward or pivot the venture idea fast, especially in the corporate venture building, where the venture teams need to build and test the concept within the given time. Besides, they have a limited budget to test the idea, which pushes the team to implement and change quickly to fit the limited amount of time and budget. The venture teams are expected to identify the problems and quickly understand, interpret, and precisely attack the problems.

> *"You need to be able to change quickly. Because from my experience, you do not have enough money. We never have enough money to wait, so you need to change quickly. Do not second guess. Cause that's where kills you. That is a waste of time. Like I think success is built on thousands of failures, but how would that happen? It happens because you've changed, and then you changed, and you adapt and adapt and adapt, and you become agile. I think that's one of the formulas."*

In this case, each venture would need a leader to decide to move forward fast, while the EIRs are supposed to play the role of decision-maker in the venture team. However, due to the hierarchy and bureaucratic system the corporate incubator needs to follow, neither the EIRs nor the team members have much decision-making power. With the time limitation, the conflict will occur between different players in the corporate incubator, and the venture team will get stuck and unable to move forward.

"If you are given a time, then you cannot wait for a union decision, and you need someone to lead and make the decision. Because like the team cannot make the decision, EIR cannot make the decision because when they explain the idea to the steering committee, if they say no, they cannot move on, but they are given a timeframe. If you don't decide on that, they cannot move on. The time is to keep moving, but you're not moving with the time."

4.2.4 Competency Trap

4.2.4.1 Rigidity and competency traps from the parent company

The overcontrol and micromanagement from the parent company also aggravate the venture teams' rigidity and changing the rigid process that the company has followed for decades is not easy. As a result, the venture teams are often stuck to the parent company's old patterns and exact corporate mechanisms because it is still functional in a certain way. This has brought the competency traps (Levitt & March, 1988) from the corporate procedure to the venture teams. Sometimes companies might face competency traps when they cannot surpass the routes successfully created in the past. (Levinthal & March, 1993) When new demands are beyond the scope and familiar domains of the company's past activities, the existing knowledge of the established companies might become a competency trap and a source of rigidity. (Carlile & Rebentisch, 2003)

In the case of corporate venture building, the venture teams, especially the corporate members, have been stuck in the old patterns and corporate mechanisms because it is still functional in a certain way. They cannot jump out of the traditional way of working in the parent company's business units and still want to keep the "corporate vibe" in the venture. They remain in their comfort zone and keep talking about the same thing in the loop, which leads the project going nowhere. They are used to working and doing things the traditional way, and as long as something seems to work, they will continue to use the same approach. The forced procedure and control from the existing system also affect a lot in the venture operation. For example, when it comes to marketing. When there is still some traction, and the team can generate some leads, they

tend to stick to the same technique without actively seeking new approaches and testing new ideas. However, can still sell does not mean it is the best way to sell, and one of the critical points of corporate incubator and venture building is to explore new knowledge domains and test new ideas.

To give birth to new knowledge and foster innovation, companies must avoid or overcome the competency traps from the previous successful experience and existing operation capability. Startup incubation often requires companies to explore new knowledge in the new market domain. It also allows the company to go beyond its current competencies and avoid the competency traps from the existing capabilities inherent in the organization. However, pure ignorance would not help the company develop the valued innovation ideas. Companies must still considerable uncertainty and risk in the knowledge exploration and incubation process. Besides, outsourcing and introducing external players can bring diversity and breadth to the current knowledge base of the company. The venture team should try not to take away the previous success, not only because the pattern of how things were done might not work this time, but also because the situation happening this time might not be the same as last time, but people are just not aware of that.

Given that, sticking to the same pattern will lead the venture to the competency traps, opposite to the purpose of establishing the corporate incubator. Besides, as the department that is expected to contribute to innovation with the intention of knowledge exploration, the nature of the corporate incubator should be distinguished from the existing system in the corporate structure so that things should not be the same. The venture team should consistently and actively look for new solutions and explore new knowledge throughout the venture-building process. Another reason why teams always stick to the same approach is the lack of comparisons and alternatives to the old ways, and the team cannot compare if they do not test the alternative methods. This is also why multiple players with various backgrounds and knowledge bases should be introduced and join the venture-building activities.

To a certain extent, this insistence on the inherent pattern also stems from the "corporate mindset" that differs from the "startup mindset." The traditional corporate mentality that the parent company is accustomed to managing the organization in the existing system is carried over to the management of the corporate incubator. As the leading decision-maker, the parent company considerably controls the incubator's operating process and problem-solving manners. First, the parent company might lack a sufficient understanding of the investment in startup and startup operation, so it is more difficult for them to allocate resources to the venture teams and manage them effectively. The parent company needs to understand the risk of building a venture as one of its investment vehicles.

> *"Everything has to go through this structure or like go through the process, and everything has to be in its own kind of framework or like the cookie-cutter thing. Furthermore, since then, everything has to be in their kind, or like in their mind it should be like the way that they have done things, which is like cooperate job. So when it comes to building a business in entrepreneurship, it does not go like that. There is a lot of volatility, uncertainty, and unknown parts that sometimes you have to be creative or get out of the frame."*

Also, when planning on budgeting, the parent company might not comprehend that they are investing not only funding but also human resources to dedicate to the project, which sometimes is ignored to convert to a part of budgeting. Their assumption and the expected returns and paybacks of the invested capital are not valid and reasonable in the context of startups, especially when they are building tech solutions that could be significantly different from the original business they are running. It is much less controllable and much riskier compared with traditional product development. In addition, the investment will typically not turn a profit as fast as their existing business models. In addition, the investment will typically not turn a profit as fast as their existing

business models. However, the parent company often only focuses on revenue and reducing the cost of production. Another example is that the corporate management was worried about the cost of customer acquisition in the pilot stage, where the point of the pilot stage is to test the idea with as many users as possible and collect so that the venture team can refine the product or service through multiple iterations. There much more influential factors than just cost and revenue.

> *"If you are doing this project like this, it's an investment, not holding money. They have to invest in their human resources to do this also. That means they are allocating more budget. If they say they are investing a certain amount of money, the value of the people they have allocated might be more. And they have to think about that at the start. Are they willing to risk this loss? If everything goes wrong and nothing returns. But I think they didn't account for those things in the beginning. That's why they become stingy with everything."*

4.2.4.2 Corporate mindset & knowledge

Another challenge emanated from the corporate mindset is the mentality of R&D in the parent company. It is a mentality capable of consistently deconstructing things and creating new solutions. However, many established companies might lack this mentality regarding innovation. It takes time and resources to do research and product development, and knowledge exploration in the new domains does not usually yield immediate returns and revenue. Thus, many companies play safe and would not be willing to dedicate enough budget to innovation and R&D, let alone corporate venture building, which might generate more risks. As a result, venture teams will likely continue operating in the existing procedure rather than considering new ones, leading to competency traps. However, such mentality and shortsightedness are the natural enemies of innovation. Besides, since the parent company is still the dominant decision-maker and remains much control in the corporate incubator, this mentality also influences the

venture team. As a result, the venture team members are also focusing purely on the cost and revenue rather than the product development itself, which is unhealthy for the venture development in the long run.

Furthermore, this kind of "corporate mindset" prevents them from accepting and absorbing new ideas and the "startup mindset" leads established corporations to become more rigid and stubborn. Companies started to pay more attention to innovation when they realized that they are left behind the new technology nowadays and do not want to be knocked out or eliminated by the new disruptions brought by innovations in the outside world. However, they are too slow to react to recent trends, do not understand the new way of working in the startup environment, and cannot change and adapt fast. While claiming innovation is one of the primary focuses, corporations still reject changes. Therefore, this "corporate mindset" and the beloved existing systems have become big traps, and its "beloved" current systems have become impediments to innovation

The parent company puts effort into the innovation only to resist disruption. It is complicated to change the current rigid process that the company has been following for decades, and it is hard to simplify or change it. Hence, a corporate incubator separated from the existing organization structure can help accelerate innovation. However, when the parent company's corporate incubator is still under control, they would need to stick to the old way of management, which has no help with innovation, and sometimes it makes it confusing for the venture team in terms of the objectives and goals. Because even though they are exploring new knowledge and testing products and services in the new field, they still cannot escape from the existing corporate structure or mindset, which limits much innovation. Many employees also do not understand innovation or startup; these new concepts and technology are too far from their primary work and initial field of expertise. It also takes time to cultivate and encourage the intrapreneurial and innovative spirit in the parent company.

In addition, the way of working in the corporate and startup environments is sometimes significantly different, so the barriers between "corporate knowledge" and

"startup knowledge" have become another obstacle in the corporate venture building process. One example is the budget planning of the corporate incubator. As an investment vehicle of the company, the estimation of return in the venture should be different from the typical R&D. However, when the parent company is allocating resources and budget, they sometimes inevitably stick to the same pattern of budget planning and management system. When a parent company provides a project budget to a business unit or department, they want to ensure the department can take advantage of it. If they do not use the project budget, there is an excellent chance that their budget will be cut the following year, same with the innovative projects. This is another reason every corporate business unit wants to use the budget as much as possible, even if they have no idea how to use it. They figure that if they do not do something with it, their projects may be phased out and discarded, or the funds may be reallocated.

Additionally, enterprise risk team members tend to propose a fancy budget to the committee since it helps them show their power and authority in the company from a large budget project. Even most of the time, this budget is unreasonable. However, this approach should not apply to startups. At a startup, budgets should be used to help grow the company. One of the keys in the venture building process is to test the idea as quickly as possible, so sometimes, they do not have to spend that much budget on prototype development. They can test prototypes faster and cheaper, but the venture capital team isn't aware of or recognizes it.

> *"They have to spend this amount on product development, and I think it's too much. So, like, they are all software products, and I think it's too early for them to spend that budget because they can test out their ideas with much cheaper prototyping methods. We have to build an MVP based on actual software development, which I think costs more than they need. And what I advised them that this would not be good to do in the initial stage because it would not be cost-beneficial because when you build software that kind of customized, like, and if you don't use it, there's no definite no salvage value, but it's like a sunk cost."*

4.2.4.3 Lack of entrepreneurial mentality

When cultivating innovation in the organization through building a new venture, an entrepreneurial mentality is essential for the team to conquer the corporate mindset, embrace the risk, and take the initiative. However, in the corporate incubator, where most team members are assigned from the parent company to the venture team, many team members are still trapped by the "employee mindset" accumulated from working in a large corporate environment for decades. The "employer and employee" mentality is still intact from the employees' perspectives. They tend to adhere to the conventional discipline and exhibit work behaviors that align with the accustomed work mode. They follow and obey the instructions and tasks managers assign to them. During this time, the venture team members from the parent company work at the corporate incubator as a part-time project while they continue to receive their regular full-time salaries from their parent companies. As these venture team members are still employed by the parent company, they follow the guidelines and decisions of top management regarding running their ventures. This dynamic can lead to issues if an entrepreneurial culture is not yet firmly established. An entrepreneurial or a founder mentality is thus paramount to be encouraged and created in the corporate incubator, but this is bound to be extremely difficult because it comes with responsibility and risk-taking.

One of the inevitable challenges is the incapability of risk-taking embedded in the "employee mindset." Corporate employees tend to pursue a more secure and safe career path and lifestyle, which contradicts entrepreneurship.

> *"I think the mindset because it is like, you can see really different among mindset of employees is they are secure because they have to work for nine to five and then they are done. Right. And they would have free time. But for someone who actually executes a business, every day is not the same day. And then you have to work, and you have to balance out yourself. And then you are always carrying risk on your shoulder that you might not be able to pay yourself or your employees, but the*

employees don't carry that risk. And they don't lose it, and they have never experienced that."

The venture team members from the parent company naturally have relatively low risk-taking preferences and entrepreneurial abilities, while the startup world is always full of risks. Unlike the corporate environment, where companies seek solutions to reduce cost and increase productivity to make more profit without taking risks, in the high-risk, high-return environment, startups constantly test and explore the new domain to stimulate breakthrough innovation. When joining the venture team, the team members need to have the mentality of starting over because they will need to explore new knowledge and obtain new skills in the new world instead of leveraging the knowledge and expertise accumulated from their previous work. However, they also need to face the challenges, uncertainties, and risks that come with it, and there is no shortcut to success. This is undoubtedly a great challenge for most corporate employees. At the same time, for the parent company, investing in the corporate incubator also generates risks for the organization as the outcome is much less predictable than the traditional R&D. Startups do not bring immediate profit initially. The profit is even often negative at the outset, which has challenged the mentality and risk-taking capability of the parent company.

Lack of capability to handle failures and setbacks is also a significant obstacle to venture development. For startups and entrepreneurs, failure is commonplace. Failure can teach people many lessons and help venture teams learn from the experience and quickly adjust and improve their solutions to adapt to the constantly changing environment. While corporates do seek to minimize the risk of failure and often frown upon such a lack of success, businesses that can learn from their mistakes will ultimately be the ones that can succeed as they continue to grow. However, in the conservative corporate structure, the tolerance for failure is usually pretty low, the corporate culture often does not encourage failure, and a negative association with failure in the context of corporates can hinder the growth of ventures. Sometimes, when the corporate incubator has committed

time and resources to a business idea that fails, they can fall into the sunk cost fallacy. They are unwilling to move on because of those prior investments. This low tolerance for failure also contributes to the parent company's excessive control over the corporate incubator. This kind of mindset can also lead to the tendency for the team to jump to conclusions immediately if they fail without finding the causes. Consequently, they might miss some crucial and valuable points or vital information that can help them significantly improve and refine the business. The low risk-taking and failure tolerance also lead the team to stay safe ideas and hinder them from taking aggressive plans when building new ventures.

4.2.5 Controversial Resource Allocation

The corporate incubator creates a chance to build a new business by leveraging corporate resources with the startup mindset and methodology. Sufficient resources such as customer base, industrial knowledge, infrastructures, and facilities can help balance out the constrained resources of a startup venture. In contrast, a startup can help bring some fresh blood and innovation to the corporate structure. Large corporations usually have more connections and networks with vendors than startups. They will be able to negotiate a better deal from their network, which could help the venture team expand their partnership and build and test the solution more cheaply.

However, there is often a loss on the chain for the venture team to access the corporate resources and knowledge database. When attempting to access or tap into parent company resources and knowledge, the parent company’s lengthy process and rigid system made it extremely difficult for the venture team to access these resources quickly. This negatively impacted their venture performance, and they could not obtain any absolute convenience and advantages brought by the large corporations. Consequently, the lack of resources will become a critical factor that makes it difficult for the venture team to establish its competitive advantages. Besides, when there is a resource constraint, it also reduces the flexibility for the venture team to shape the service and create new knowledge.

Parent companies can often not promptly provide venture teams with the necessary resources. For example, suppose the venture team needs to use the resources from a particular department of the parent company. In that case, they still need to put much effort into finding the key contact and accessing the resource by themselves through the hierarchical structure. Also, in many cases, the venture teams cannot easily and quickly access the resources and information they need due to inadequate storage and mapping of information and knowledge. Given that, the venture team cannot obtain any absolute convenience and advantages brought by the large corporations. This creates a lot more tasks and pressure for the EIRs and team members and greatly hinders the progress and agility of the venture growth in the corporate incubator. Sometimes, it is even easier and faster to find other vendors that provide services the same as what the parent company offers.

In addition, managing human resources and intellectual property is essential in the corporate incubator since one of the primary purposes of corporate venture building is knowledge exploration in new domains. The high-performers and entrepreneurial talents are the key drivers to the success of a new venture. Parent company needs to understand that when they invest in the corporate incubator, besides financial investment, human resource, time, industrial knowledge, and other resources that are not directly involved in money are also a part of the investment. The value of people should also be considered an indispensable part of the investment. However, there are always some obstacles and conflicts happening when it comes to the allocation of human resources:

Parent companies often mismatch team members with the venture. When selecting and assigning employees to join the corporate incubator, the parent company sometimes fails to put the right people in the suitable position in the venture team. The causes of this problem are various. First, there was no solid standard for selecting the team members to join the project in the team recruitment process. Instead, the parent company announces the corporate venture building as a project, and whoever in the company intends to join can apply to the project. Besides, the screening process was also

insufficient, and there was no procedure to match the specific knowledge base needed in the venture to the position in the team. Some team members are forced to join the project to reach the "innovation KPI" that each business unit has, which is not a healthy approach in the long run. This lack of startup knowledge has led to the mismatch of the domain-specific knowledge to the job function in the venture team. Furthermore, due to the intensive involvement of the parent company in the decision-making and governance management process, it is a bit difficult for the outsourced experts with startup knowledge to put effort into the process. As a result, ineffective talent allocation happened.

Moreover, since the parent company's understanding and knowledge of startup in general or the specific knowledge about the nature of the venture business is very limited, they sometimes put the wrong person in a position that is not their expertise and would not contribute to the team. For example, one Entrepreneur in Residence reflected, *"The man who left focused on a marketing lead. So his position is marketing lead, right. So I expect they can place someone with marketing knowledge to fill the team, but they put someone like the head of the mechanic to replace."* This mismatch and misplacement significantly affect the motivation and engagement of the venture team members when exploring knowledge in the new domains.

Another challenge of human resource management is that the venture team members from the parent company are all working in the ventures as part-time jobs. Venture team members are primarily full-time employees with regular jobs in the parent company. It is difficult for the team members to balance the workload in their regular job and tasks in the startup venture. Also, since their primary income is still their full-time job in the parent company, the team members' priorities are still their regular jobs. Working on two jobs simultaneously becomes overwhelming and stressful for the team members, so they will not be able to dedicate enough to the venture development. It has also become a significant obstacle to achieving innovation. The venture team members must deal with the pressure and conflict with their primary job. Some members even decided to drop out of the corporate incubator when the backlog and workload increased.

This also has brought unfair workloads for the outsourced venture builders and EIRs as they are the ones who are working on the venture full time.

Moreover, pressures are also from the interest conflict with the business units. Since the team members who joined the corporate incubators are assigned from the business units, the venture building project will take away their time working in each BU, creating more stress and an unfair workload. Therefore, the head of Bus might not be willing to assign their team members to join the corporate venture building project. Besides, if the venture successfully spins off, it will lose human resources and knowledge in these BUs. Thus, even though everyone in the organization claims they would like to support innovation, they might not be willing to execute and participate in innovation themselves. The conflict of interests with the business units has become another unavoidable obstacle.

> *"So they, maybe will not happy to use their people sometimes I think, because we have this project, they have to send one of the team to do venture building one day a week, right. If the business succeeds, they will have to send their team to work on it full time. So they will lose employees. So sometimes they will not be happy and want to keep their employees with them."*

Furthermore, working on the venture building project is also a time limitation. Every venture team receives time restrictions from the steering committee of the parent company, and the venture team is expected to build, develop, and test the product or service. It also requires time to understand and analyze business and data to refine and develop the venture. However, the team might not have enough time and resources to execute the venture idea, and while they are pushed by time to deliver some outcomes, it is all messed up. Also, even if the team places the person with the domain-specific knowledge needed for specific tasks, due to the time conflict with the regular full-time job, they will not be able to dedicate enough time to complete the tasks for venture

development. This has led to the unfair workload and responsibilities to the venture team members from the parent company and the outsourced venture builder from Whatnot.

4.3 How Do Both a Venture Building Company and a Startup Venture Overcome the Challenges in Incubation?

Corporate venture building often happens in a complex environment with high novelty. Each party in the corporate incubator needs to generate new knowledge to react to the constant changes and the increasing novelty. As the level of novelty increases, the need for cross-disciplinary knowledge and expertise increases too. The growing need to transform knowledge between different stakeholders in the corporate incubator might disrupt established relationships between fields of specialization. This requires redefinition and renegotiation of interdependencies and knowledge boundaries. (Carlile, 2002; Carlile & Rebentisch, 2003)

The corporate incubator comprises professionals from different business units and startup experts in this research. Corporate employees come together with startup experts to create new knowledge and build new entities, bringing together diverse backgrounds in each team. Different specialists play different roles in a corporate incubator. The diversity of backgrounds allows fledgling ventures to benefit from exchanging ideas, identifying customer pain points, and tackling problems from multiple angles and perspectives. Members from the parent company and startup can provide complementary knowledge and resources to each other. The parent company's sufficient access to the customers, financial support, experience, and network in the industry can provide adequate resources that startups usually lack.

Meanwhile, Whatnot, as the outsourced venture builder, brings in its startup knowledge and expertise, entrepreneurial talents, startup network, and up-to-date technology to identify the new trends and ideas in the market that can address the

problem statement of the parent company and stimulate innovation in the corporate environment. This combination of corporates and startups creates synergy in the corporate incubator, and venture members collaborate to solve problems complementarily. However, knowledge boundaries may also inevitably occur across these diverse and sometimes conflicting backgrounds and knowledge sets.

Although innovation happens at the boundaries between different mindsets and knowledge bases, the mindset still needs to connect for boundaries to exist. (Davenport et al., 1998) Thus, effectively managing the knowledge boundaries and integrating knowledge among stakeholders is crucial for a successful knowledge incubation. In this circumstance, understanding the boundaries and obstacles of a corporate incubator under hybrid governance with internal and external stakeholders, integrating different knowledge, and managing those knowledge boundaries to develop successful ventures could be the questions that need to be examined further. The facilitator also needs to effectively negotiate and manage the boundaries among different stakeholders to redefine and rebuild the boundaries at the organizational level.

4.3.1 Mutual Agreement as the Boundary Object (Star & Griesemer, 1989)

In the cross-functional team in the corporate incubator, it is important to effectively manage knowledge across boundaries of different domain expertise and specialties. Companies must create a shared context and mutual agreement among different specializations when managing boundaries across different knowledge domains rather than simply transferring knowledge. (Carlile & Rebentisch, 2003; Nonaka, 1994) A shared context should be created to enable effective knowledge sharing and knowledge transformation in the organization, and boundary objects (Star & Griesemer, 1989) can represent knowledge from different groups and thus develop the shared context among multiple players. (Carlile & Rebentisch, 2003) Boundary objects refer to the shared objects across different groups and contexts. (Carlile, 2002; Star & Griesemer, 1989) This object must be abstract enough to be shared across sites yet still concrete enough for individual sites to use. The boundary objects may have different meanings under different

settings and groups. However, their structures need to be common enough to be recognized across various groups to become a means of translation. (Star & Griesemer, 1989)

When initiating the venture-building activities in a corporate incubator, it is vital to have a mutual agreement among all stakeholders and keep everyone on the same page. Given that, a mutual agreement among different stakeholders in the CVB process is essential to initiate the project and to set up the aligned vision and direction of the venture development. This mutual agreement should play the role of boundary objects (Star & Griesemer, 1989) across different players in the incubator to create a shared context for the venture-building activities. The joint agreement should cover the corporate incubator's objectives, the expectations of the ventures, the scope of work for each party, the management and governance structure, and each player's clearly defined roles and responsibilities. A clearly defined and mutually agreed protocol can also help avoid the bureaucracy and excessive control from the parent company in certain areas they should not get involved.

First, the parent company needs to clearly understand the corporate incubator's objectives, what they would like to achieve from the corporate incubator, the expectations of the ventures, the scope of work, and the outcomes. The main objectives need to be sufficiently negotiated and mutually agreed upon between the top management of the parent company and Whatnot to initiate the venture building project. These objectives must be communicated and successfully delivered to the venture core team and all stakeholders involved in the CVB process. It is crucial to communicate with the parent company, close the gap in understanding of venture building, and align the agenda and expectations of the corporate incubator. Furthermore, each venture's vision and ultimate goal need to be decided by the venture core team and articulated to the services providers and other players. The vision of each venture needs to be mutually agreed upon and aligned by the core team members to ensure the whole team is moving in the same direction. The study indicated that it is easier for the venture team to set up their vision

and goals that can align with the long-term goal of the parent company if the parent company can clearly articulate its objectives and expectation from the innovation department. Once the vision and goal are aligned internally in the core team, they will thus be able to communicate clearly to the shared service providers and articulate their needs to develop the venture.

Secondly, the corporate incubator should also decide and clarify the management and governance structure that will be implemented and reach a consensus among stakeholders. The leadership conflict with the business units in the parent company needs to be solved. Since the members of the venture core team from the parent company are recruited from the business units, while they need to perform their duties in their main full-time job, the time conflict and resource allocation in the organization, there will be a potential conflict between the business units and the corporate incubator. Under this circumstance, the management level of the parent company must determine and clarify the governance structure of the corporate incubator and reach a mutual agreement with not only the players in the incubator but also the top management of each business unit.

Since the core venture team members of the parent company are recruited from business units, there is a potential conflict. The venture team members recruited from the business units must perform their general duties in their main full-time jobs. Thus, the organization will have time conflicts and resource allocation issues. When the benefits of the corporate incubator relate to the benefits of the parent company's existing business units, the top management of the business units are likely to be biased against new ventures and projects. Significantly when these ventures can potentially harm the benefits and interests of the business units. (Kötting, 2019) Therefore, the parent company's management must determine and clarify the governance structure of the business incubator. A mutual agreement with the corporate incubator and each business unit's top management needs to be negotiated to benefit each stakeholder as much as possible. As one of the venture leaders from Whatnot indicated,

> *"As one of the venture leaders from Whatnot indicated, They can propose a problem statement because it's still corporate, but they can't give just random stuff. They can select the problem, maybe even quite a specific problem, but then from that point, they need to allow that team to function independently for a certain period of time. It doesn't have to be forever, but give them some time to breathe and develop something. And if they don't deliver, kill it. If they deliver, give them more money than whatever they ask."*

Thirdly, the roles and responsibilities of each player need to be identified and mutually agreed upon by all stakeholders. Clearly defined roles and responsibilities help place the right person in the proper position, and it can effectively prevent the potential clash and conflict in execution. As a multi-discipline and cross-function team, each player makes the most of their expertise and contributes to the whole venture team to drive innovation. The roles and responsibilities of each party need to be well defined to maximize the use of specialties and domain-specific knowledge in the team. How much should the parent company involve in the operation work, how intensive the micromanagement should be, and what are the deliveries expected for each player. to put the right people in the proper position. Also, once the precise roles and responsibilities and the needed function of the team are identified, they perform their respective roles to achieve the smooth and efficient operation of the corporate incubator. In addition, the precise roles and responsibilities of each job function in the team can also help manage the legacy and retrieve knowledge if someone leaves the venture team. It also helps clarify how much each stakeholder should get involved in each task in the venture development process.

4.3.2 Organizational Learning and Knowledge Sharing: Training and co-working sessions to tackle the syntactic boundaries

The venture team comprises members from multiple business units and various job functions in the parent company, and the externally recruited team members are also from different backgrounds and domains. Therefore, agreeing on the common language

and lexicon is essential for the team to transfer their knowledge and move forward before taking other actions. Besides, the team includes people from diverse job functions, including construction, design, public relationship, procurement, etc. Most of them have little basic knowledge of businesses or startups. Also, even though the venture team members are encouraged to learn by doing to cultivate their entrepreneurial mindset and knowledge, some basic vocabularies are hard to be learned by doing. Some fundamental concepts can be challenging to grasp purely through experience. In addition, each party does not need to grasp the extensive domain-specific knowledge and specialty of other parties, and they are not expected to become experts in each area. However, it is still necessary for the venture team to understand to a certain extent to communicate the venture development plans and strategies smoothly.

> *"I think an intermediate level of knowledge, not the beginner in this stage, like having these a lot of projects going on. It doesn't have to be someone who works with software developers or like that. It doesn't need to be that advanced—just someone who can do that data analysis."*

> *"It's just segmenting that into some sort of scheme, and later, it's more like assembling. We do need to go deep, so it's kind of a design thinking approach because you just test surfaces, then go a level deeper and level deeper, and it's impossible that one person could know all these things anyway. So you just placed the people who understand."*

Before initiating a corporate venture building program, it is crucial to conduct several preliminary and proper training sessions for the team to learn about basic business knowledge and startup terminologies to develop an understanding of the operational foundations of a new venture. As fundamental principles can be extrapolated, their understanding will expand. Once the team has grasped the basics and unified terminology

and jargon, it would be easier to manage the syntactic boundaries and transfer knowledge between different contributors, building a foundation and meeting the prerequisites for further managing knowledge throughout the venture-building process.

In addition, ideally, corporate incubators should be composed primarily of highly autonomous multi-disciplined venture teams, where different stakeholders expect to have a relatively equal voice at the operational and executive levels. Under this circumstance, knowledge transfer in the corporate venture building process should not be unidirectional but bidirectional or multidirectional among different contributors. Different stakeholders contribute and bring different knowledge and resources to the venture, creating something new collaboratively. Therefore, to establish the shared and stable lexicon (Carlile, 2004) across a given boundary, it is also essential first to investigate and understand the differences in the team regarding the knowledge base and accessible resources of each party.

First, each party should be self-aware of their knowledge, respectively, knowing what they know and do not know. They need to understand the resources and expertise they can access within their knowledge base and what domain-specific knowledge they can contribute to the team. Thus, later it would be easier for them to explore and identify the different or shared knowledge bases within the team. Also, acknowledge and admit what they do not know to be more prepared and targeted to acquire the knowledge each party needs later.

Furthermore, bouncing ideas with other team members also contributes to identifying the knowledge bases and boundaries. Co-working sessions of the core venture teams have been conducted weekly to encourage organic communication. It is tough to investigate what knowledge each participant has without active communication. Without such questioning and discussion, it would be hard to know and understand the difference and similarities in the team regarding the accessible knowledge and resources. Neglecting to exchange ideas would also prevent the team from understanding which aspects of the venture-building process were successful and which were not. Thus, bouncing back and

forth and openly sharing information with other team members can help increase the transparency of the knowledge base, define the knowledge boundaries of each member's involvement in the project, and establish the shared lexicon across the given boundaries.

Additionally, the idea bounces between the venture team and shared service specialists such as tech developers and marketing agencies. Since the team member's knowledge of each specialized service or technique may be very limited. At the same time, the specialists are not as knowledgeable as the venture team members regarding the business itself, and they need to comprehend the knowledge of each party and different vocabularies in each field. By understanding better where the boundaries are, the frequently used terminologies, and the preferred language of each side, the service provider could make the most of their domain-specific knowledge further and maximize their contribution to the ventures. An expert with knowledge or experience with startup and technical knowledge can also help make the obscure professional terms more understandable, articulate the concept and needs of the service providers more clearly, guide the team, and bridge the knowledge gap between the two sides.

> *"I think (communication in terms of professional terms) is not a problem because as a consultant or advisor, it's one of your responsibilities to not speak in jargon and technical terms. You try to explain things as simply as possible. Some people say it's the listener's job to understand. But for me, I think it's the advisor's job to do a good job. Because you are advising that person, you have to make sure they understand as possible with the best capability of yourself in terms of explaining."*

The venture team should provide an environment conducive to active thinking and encourage discussion instead of purely passive listening.

However, due to the particular situation of the COVID-19 pandemic, most work has been done remotely, and the chance of face-to-face co-working and communication

has been diminished. This dramatically affects the team's communication and efficient knowledge transfer, which has brought more difficulties in communicating and aligning with the team. It has been found that face-to-face interaction can promote trust-building, facilitate communication, exchange knowledge, and discover each party's unknown expertise in a more casual environment. It can also effectively reduce miscommunication and misunderstanding within the team. Besides, by working together in the same environment, people can get more familiar with the different terminologies and jargon in the working space, which is hard to achieve when everyone works separately and remotely online. Therefore, as far as possible, face-to-face communication and in-person contact should be created as many as possible to enable the constant knowledge transfer and build a shared and stable lexicon among various parties.

4.3.3 Boundary Spanner: For bridging and mediating different stakeholders

Following the knowledge base and capabilities of the various parties involved in the CVB process, representatives from each party should continue to engage and negotiate knowledge boundaries more profoundly. Participants should have an aligned understanding of the commonly agreed terminology within a given context. Generating shared interpretations and mutually accepted meanings (Dougherty, 1992) can reduce or eliminate misunderstandings or interpretive differences across boundaries. (Carlile, 2004) However, when attempting to reconcile differences of interpretation, it may be more crucial in some cases to negotiate and compromise or even to make trade-offs between conflicting interests. It may be necessary to evaluate the political consequences of different courses of action to reach a consensus. (Brown & Duguid, 2001; Carlile, 2004) Creating common understandings involves achieving consonance among participants' perspectives through negotiation and compromise. (Carlile, 2004) Thus, the knowledge boundaries should be managed at the semantic or interpretive level to reduce the ambiguity in meaning or conceptual interpretation in different contexts. In the corporate incubator, roles such as Entrepreneur in Residence (EIR) and Project Manager act as mediators or knowledge brokers (Davenport et al., 1998). They play the role of boundary spanners to help bridge the gaps, negotiate the boundaries, and translate knowledge

between the knowledge base of corporates and startups.

A strong entrepreneurial individual with corporate experience and startup knowledge would be a firm and dependable bridge between the parent company and outsourced venture builders like Whatnot. This person needs to be able to speak both corporate and startup language and have technical skills and in-person experience in both environments. The ideal EIRs are expected to be very good at understanding people, navigating deep into the corporate structure and hierarchy, and knowing what kind of language needs to be used in different circumstances.

> *"It's pure experience dealing with the corporate world, like how it works, understanding politics. That's very important. Understanding what the corporate incentives are. What kind of strings do you need to pull off convincing that person to be an advocate of innovation and startup. So, you need to be very good at understanding people and how to navigate within the whole corporate structure and hierarchy. The language also, what kind of language you need to use. It's a matter of experience working in that world and working with startups simultaneously. So you understand both worlds; you understand the differences."*

Experienced EIRs can facilitate and mediate the venture-building process, bringing knowledge about the corporate incubator to the core venture team daily, helping each side understand what and why they are doing what they do, and shaping the culture in the corporate incubator. Additionally, by articulating what and why specific actions are necessary for the venture development process and expressing the demands of both parties, EIRs allow the corporate members to comprehend the startup methodology more deeply, as well as help Whatnot understand better the needs and objectives of the parent company. They help the team gain a deeper and more concrete understanding of the terminology in practice and assist the negotiation between different stakeholders in achieving a mutually agreed meaning and interpretation of the terms, concepts, and

procedures.

Moreover, the more intensive involvement and engagement of Whatnot management as venture leadership has also been found essential and helpful in enhancing the team's comprehension of the venture-building process. Even though the EIRs are the ones who work closely with the team and facilitate the whole process of building new ventures, the venture-building process is designed by Whatnot management, and they are the ones who carry the in-depth knowledge of the entire process. Therefore, by frequently communicating with the EIRs and supervising the venture teams, they will be able to troubleshoot issues, tackle and solve problems faster and more effectively, and ensure a smooth operation. These regular communications also make it easier for both Whatnot and the parent company to adapt to the knowledge in each domain of expertise. Thus, they catalyze the trust-building process among different parties and reach a consensus.

Another pivotal role in reconciling the different stakeholders and helping to negotiate and manage knowledge boundaries is the project manager. A project manager oversees the development of a venture from start to finish, setting and tracking objectives and key results (OKRs), pinpointing milestones, and managing deadlines, working with various parties, and coordinating the activities of multiple stakeholders while effectively strategizing to ensure the goals of the project are met. They are like the glue that holds people together, bridges the gap of miscommunications, and sometimes soothes the tension in the team. A project manager is expected to understand each stakeholder's language and communicate with them effectively, pass the messages from one to another, keep everyone informed of their duties, and remind them of the mutually agreed venture's goals. A project manager acts as the knowledge broker, understanding the tasks and their dependencies and knowing how to access and acquire the necessary information and knowledge from various sources. Project managers with not only startup knowledge but also industrial knowledge of the core business each venture operates will be exceptionally accommodating in venture development and assist in keeping everyone on the same page.

In addition, guest speakers with corporate innovation knowledge and experience are invited to give inspirational talks to the team. They can help increase the perceptual understanding of the team regarding corporate venture building and innovation so that they will be more likely to have an aligned understanding of the meaning of concepts. They share their previous successful and failed experiences of running a startup with the team and help the venture team or even the parent company's top management understand how startup and innovation work in the real world. *"They would share the way how they're doing, and how they're building that startup based on the aspect that we're working on. So let's say we were developing your marketing strategy, so they're able to give some understanding of how that could be done in a startup."* These stories or case studies help teams understand startup methodology more concretely, rather than just learning boring terminologies. This can illuminate a new perspective on how to run a startup.

> *"They talk and share their experience that helps people understand why we have to do the innovations and what the key challenge is, and this will help them understand why we have to do innovation in the future."*

Thus, these more vivid explanations in the experience give the team a more tangible understanding of the startup knowledge and terminologies they obtained. This will also contribute to aligning the semantic meaning of startup knowledge in the practical context, cultivating entrepreneurship, and establishing the team's consensus regarding venture development, thus generating more chances for the future to integrate and maximize the use of knowledge in the venture team.

4.3.4 Managing Pragmatic KM Issues (Carlile, 2002, 2004): Negotiate mutual interests and strategic alignment of different stakeholders

Knowledge transformation among domain specialists and parties involved in the venture-building activities should allow them to work together efficiently. In the pragmatic view of knowledge, the diverse interests of various players need to be

effectually negotiated to enable novelty at the pragmatic or political boundary. (Carlile, 2002, 2004) When stakeholders own different amounts of relevant information and knowledge, their knowledge bases are asymmetrical. Such asymmetry affects the knowledge boundary at the pragmatic or political level. When stakeholders' interests oppose each other, knowledge developed by one party might cause detrimental consequences for another. Therefore, the shared artifacts and methods need to be established to provide the ability to negotiate interests among multiple stakeholders and transform knowledge between different participants. (Carlile, 2004)

Considering the different interests and purposes of the two major parties: Whatnot and the parent company, it is paramount to negotiate and mutually agree on the objectives and align the strategy and goals of both sides at the initial stage of the corporate incubator establishment. Due to the different levels of startup knowledge, innovation capabilities, and experience, there are gaps between the parent company and Whatnot in venture development. Also, there is a fundamental difference between the corporate and startup environment, leading to varied interests on each side. The parent company is still at the early stage of experimenting. Building an "innovation image" and increasing staff engagement through innovation are still the primary drivers and objectives instead of the actual innovation. Differently, Whatnot already has expertise in building startups. They are far ahead in venture-building knowledge and aim to leverage their startup knowledge to help the parent company successfully build and launch spin-off ventures. However, to establish a corporate incubator and enable knowledge creation through corporate venture building, the parent company should act as a strategic investor instead of managing and leading the ventures following a conservative way of operating business. In addition, they need to give enough autonomy and freedom to the venture team to explore new knowledge in the new domains.

> *"Just act as an investor, and that's all. It is like a strategic investor; try to bring in people who know how startup works, as mentors, as accelerators. So venture*

builders outside like Whatnot and give them a similar amount of freedom. It's all about if you made the decision that you want to do venture building, just do it like invest it, and leave it, leave it be. It's like growing naturally and then checking the results. If it doesn't work, kill it. If it does, give more money."

Meanwhile, the nature of ventures in the corporate incubator needs to be strategically aligned with the company's objectives. Ultimately, the problem statements identified by the parent company are still the basis for these innovation efforts in the corporate incubator. The newly developed ventures need to satisfy the parent company's needs to achieve the business transformation and upgrade their knowledge base. The parent company is more likely to invest in ventures strategically aligned to its business goal because it can share and leverage resources like human capital, technology, and customer base. Once the objectives and mutual interests are identified and aligned, it would be more likely to integrate the knowledge of different parties and achieve multidirectional knowledge transformation between various parties.

As the strategic investor, the parent company should also understand the importance of giving freedom, giving enough autonomy, assigning adequate authority to the corporate incubator, and avoiding injecting the corporate structure and hierarchy into the venture teams. Transparency and trust need to be established among different stakeholders. A new process and governance that is separated from the corporate needs to be developed, and the management of the corporate incubator should be independent of the corporate structure. It is a standalone entity that carries the mutual interests and the venue enabling and facilitating knowledge transformation across multiple parties. Under this new system, venture teams will bypass the slow decision-making process in their parent company and be able to make decisions more quickly. The venture teams will benefit by avoiding bureaucracy that can slow down the process of new business operations. They will also be more flexible, operate at the speed of a startup, take advantage of market opportunities, and have the agility to adapt to the rapidly changing

environment. The new operation procedure and working flow can also help avoid the competency trap accumulated from the previous success of the existing business, which might be completely different and not valuable in the new venture.

Besides, due to the fundamental difference between the corporate and startup jobs, the venture team members should also be predominantly recruited externally to avoid the mismatch between the two cultures. Therefore, the corporate incubator should select the most suitable entrepreneurial talents with enough specialties, motivation, and passion for running the ventures. These entrepreneurial and growth-driven individuals can see this as an opportunity to expand their knowledge base in the new area and identify the non-monetary incentives in the corporate incubator. Under these circumstances, aligning each member's interests and the venture team's business goal would be easier and more possible.

4.3.5 Talent Management: Recruit and Cultivate Entrepreneurial Talents in the Incubator

People are the key driver in the corporate incubator. The cross-functional venture teams mainly consist of corporate employees from different business units, including finance, engineering, design, marketing, construction, etc. These team members are used to the conservative business operation in the traditional job functions. However, members are expected to have the "startup mentality" or entrepreneurial mindsets to succeed in venture development, such as risk-taking preference, high tolerance to failure, and proactive initiation. However, these ambitious and entrepreneurial individuals are rarely found in the traditional corporate organizational framework. (Leifer et al., 2001) Although established corporations may offer employees sufficient compensation, they rarely provide adequate incentives for their employees to prompt and motivate intrapreneurship and innovation in the organization. In the corporate incubator, entrepreneurial talents and high performers have been found to play a vital role in bridging different knowledge bases, transferring business and entrepreneurial knowledge, and pushing and driving the development of the venture in the team.

Entrepreneurship and startup mentality is hard to teach, and it is tightly embedded in the practice and experience of the entrepreneurs. One does not simply study to become an entrepreneur. For a corporation to develop new products efficiently, its corporate incubator must install an entrepreneurial mentality from the venture team members to the top management. It is crucial to promote a culture that is willing to foster the development of new ventures through a process of creative destruction. Unlike the basic business and domain-specific knowledge acquired from the training sessions, and workshops by domain experts and professionals, entrepreneurial know-how is often gained through trial and error in the hands-on experience. However, given the tight testing cycle of the new venture, it is also challenging or even impossible for the venture team members to learn by doing in such a short time. Thus, recruiting, developing, and retaining startup-minded talents like Entrepreneurial team members can be essential in creating and maintaining a startup culture that contributes to team performance. These entrepreneurial individuals have been found helpful in driving and inspiring the team, adapting to the startup pace, and boosting the venture team's morale. Several distinguishing traits have been recognized in these entrepreneurial individuals, including willingness to take risks, the ability to tolerate setbacks, eagerness to seize opportunities, the tendency to take the initiative and make decisions, the ability to act proactively in situations, and the capacity to solve problems independently and make decisions quickly, etc.

In the conservative corporate culture, it is a widespread phenomenon that employees are afraid of making mistakes since they will be blamed or get penalties for making mistakes. In the conservative corporate culture, it is common for employees to fear making mistakes since they will be blamed or incur penalties for them. They are afraid of the negative consequences of failure. In addition, corporations may also need to deal with increased costs in their business operations and R&D caused by failed experiments. Corporations may be less inclined to take risks by funding a venture that may fail, which can increase operating costs and unrecoverable sunk costs generated from experiments in the knowledge exploration activities. Nevertheless, failure can also

be instructive for entrepreneurs, who should regard setbacks as learning experiences. Failing is a vital part of entrepreneurship, and entrepreneurs consider their failures learning experiences. Failure can provide valuable learning experiences for entrepreneurs and help them succeed in the long run. Failure also naturally happens in the knowledge exploration in the new domains, and no one is protected from failure. This fundamental difference between startups and corporates often causes conflict when dealing with failures in the corporate incubator. When exploring unfamiliar territory and new fields, failures are unavoidable, and there is no way to guarantee a successful outcome. This is a natural occurrence in startups, and it can cause conflict when corporations try to control the results. Sometimes, corporations may be reluctant to accept the possibility of failure, and when a startup encounters setbacks, the corporation might consider it a failure.

Besides, the risk-taking propensity is also identified as a distinguishing characteristic of these entrepreneurial individuals. The risk-taking tendency is also necessary for pursuing active knowledge exploration rather than merely passively exploiting the current knowledge and capabilities, as it is safer and less risky. Business incubators are designed for entrepreneurs who prefer to take risks and explore and test new business opportunities. While many corporate employees are content with the stable position, the ideal candidates for corporate incubators are people who prefer to explore uncharted territory and experience new things. Whereas corporate employees are accustomed to taking small steps and playing it safe, candidates for an incubator should take a proactive approach to risk-taking.

Additionally, these high-risk propensity individuals (Leifer et al., 2001) will be more likely to join the corporate incubator because they see it as an opportunity to learn, risk something, and build their new businesses rather than a frightening step into the unknown. They will be more motivated and engaged in the venture-building process. *"Because if they have motivation, they might use their free time to work on this, but I think it's become like the payoff. For me, this is an opportunity to risk doing business without using your own money. I would use that opportunity to actually learn in my free time as well."* By recruiting and developing these individuals, the corporate incubator can improve the chance of

attracting and maintaining the enthusiasm and motivation of its members. They can also potentially help convert the mindset of the corporate team members that have been resistant to change.

Moreover, leadership is also an essential quality for entrepreneurs to have. A strong, brave, and bold leader is the primary driver of determining the appropriate direction, guiding the venture team towards the same goal, and allocating the tasks to the team to succeed. The leading entrepreneurial talents need to have enough passion and motivation to build a startup, show the presence of leadership to the team, be immersed as the project leader, guide, influence people, and cultivate a startup mentality. Often, corporate employees and specialists might not have enough motivation to build a startup, and they are not as passionate or motivated as the players with a startup background. Thus, as the driving force and pioneer of the team, the leader should cultivate and encourage the motivation and entrepreneurship of the team members, lead by example to build a vibrant team culture, and create a positive and dynamic entrepreneurial environment.

> *"Because the team does not have as much motivation our team as we do, no matter if they're a project owner or not, they're still not that they would not have that level of motivation. So, if you're not leading and showing it by example, it's not going to happen. If you're wishing that people were just going to sort it out for you, it's not going to happen. They can try, but they also don't know your agenda. So, they also have another level to think about, what would my boss think about me."*

The healthy, vibrant entrepreneurial environment at a corporate incubator also fosters the psychological safety needed to allow teams to experiment and fail without fear of retribution, thereby allowing them to explore new knowledge. A clear vision and goal are also reflected in decisive leadership. The clear guideline provided by the leader can improve the team's productivity and give a direction for the team member to learn more

efficiently and explore new knowledge in the new industry. Fast learning is crucial in a startup. The commitment of the entrepreneurial leader can also enhance the motivation and mentality of the team members to drive the venture toward the mutually agreed direction and the success of the venture.

CHAPTER 5
DISCUSSIONS AND CONCLUSION

This study aims to comprehend the pivotal role of knowledge management in the inception of the startups in the corporate incubator. It desires to dissect the secret repertoire and crucial factors of the major players in the corporate venture-building process to thrive and sustain innovation in the turbulent and high-risk environment. Throughout the single case study with a corporate venture building company, this study demonstrated how startups initiate knowledge creation and the subsequent knowledge development and how the venture teams overcome the challenges in the venture building process in the settings of the corporate incubator.

Discussion

In this research, a single case study was conducted. The researcher examined a case where an outsourced corporate venture-building (CVB) company facilitates the knowledge development process in a corporate incubator and orchestrates the CVB process within the venture teams consisting of internal members from the parent company and externally recruited talents. The case study seeks to explore and understand how knowledge management contributes to the inception of new startup ventures in a corporate incubator and how knowledge is developed throughout the CVB process.

The findings of this research are demonstrated in three main sections. Firstly, the initiation of the knowledge development process within a venture team. (SubQ1) Secondly, the main challenges confronted throughout the whole knowledge incubation process. (SubQ2) Finally, how do all associated participants in the venture react and conquer the obstacles in incubation under a complex environment where the novelty is high. (SubQ3) Through the exhaustive analysis of these three aspects, this study aims to understand the essential ingredients that allow individuals and corporations to take risks to explore and develop new knowledge, efficiently orchestrate the resources, and manage

the boundaries between corporations and startups to sustain their innovation ability in the corporate incubator.

Based on the findings, the researcher has defined the lifecycle of a newly built venture in the corporate incubator in four stages: *overture, rudiments, polyphony,* and *breaking dawn* of the venture. Each phase of the CVB process entails specific actions with corresponding goals. Knowledge management activities are also necessarily carried out at different stages. (Table 5.1)

The *"overture"* stage, or the "pre-incubation" stage, aims to reach a consensus with all stakeholders in the corporate incubator and keep everyone on the same page regarding the objectives of the ventures, roles, responsibilities, and communication channels, etc. Identifying a mutual agreement and shared vision is essential before initiating the knowledge creation and incubation process. Through a bidirectional knowledge transfer and knowledge sharing between the parent company and outsourced venture builders like Whatnot Startup Studio, participants investigate and navigate the knowledge base of each other during this *"overture"* phase. Besides, with the parent company's management level and innovation leads, Whatnot will analyze and identify the problem statements to address in the later stages of venture building. By clearly communicating project expectations and demands from both parties, a mutually agreed-upon objective will be aligned with all participants.

The primary objective of the *"rudiments"* stage of the venture is to conduct knowledge exploitation and exploration in the venture team. Before diving into a venture building, it is essential to build a solid foundation and understanding of the resources available and accessible to the team. As most participants have no experience building startups or operating their businesses, it is also crucial for team members to understand basic business terminology and industrial knowledge that may not be common and familiar in their fields. Consequently, the venture teams will acquire the fundamental knowledge needed in business operation at this phase by forming the *"rudiments"* of new

knowledge and venture. Besides, the corporate incubator should cultivate the team members' entrepreneurial mentality and encourage them to think outside their boxes.

Moreover, since multi-discipline players with various backgrounds carry out the CVB activities, the participants must be able to coordinate their efforts to achieve the best outcomes and reach success. Thus, to facilitate this CVB process, all parties must understand each other's knowledge and resources and their own. At the *"rudiments"* stage of ventures in the corporate incubator, venture team members are expected to exploit, analyze, and configure current capabilities and the accessible resources from both the parent company and outsourced venture builder.

In addition, the rudiment of a venture involves acquiring a better insight into the market opportunity and competition. Knowledge exploration will also occur at this stage, investigating existing businesses in the target industry and looking at the market competitions to identify and research local or global trends and up-to-date technologies that may impact the venture's success. A multidirectional knowledge transfer and knowledge sharing occur at this stage among different participants involved in the venture. All participants collaborate and start creating new knowledge within the venture team.

The selected venture ideas in the corporate incubator will usually go through a pilot stage in which the venture team will test their business idea with the market. At the same time, the MVP (minimum viable product) or MMP (minimum marketable product) will be developed. This stage is recognized as a *"polyphony"* stage in this study. Like polyphonic texture in music, the venture orchestrates various resources and multiple service providers in diverse domains, simultaneously combining specialists in different disciplines, assembling an individual piece of work, and achieving harmony and synergy of complementary skills in each area. Combining these resources and service providers creates a synergy that adds more remarkable value to the overall venture development than any individual party. Service providers are expected to have a deep and well-rounded understanding of domain-specific knowledge. The venture teams are supposed to

have an in-depth knowledge of the nature of the business itself. Each party is well versed in their expertise, performs their respective duties, and contributes to the ensemble, and together, they compose beautiful chords. They integrate and collaboratively co-create and incubate new knowledge through multiple iterations. Each party will expand its knowledge base and boundaries through this multidirectional knowledge transformation.

Finally, after testing the venture idea with potential customers in the pilot stage, each venture should consider and devise its exit strategy. The exit plan varied for each venture. It may be launched as a separate spin-off startup once a new venture has proven its worth and viability through pilot testing. It may be pivoted to pursue an alternative opportunity and go through the previous stages again for a few more iterations. If the market does not validate an idea, it may be terminated, and the venture team will be reallocated to other ventures. This end to the venture in the corporate incubator will also pave the way for a new beginning, the *"breaking dawn"* before a new epoch.

Table 5.1: Corporate Venture Building Stages

Venture Incubation Stage	**Venture Building Activities**	**Goals and Actions**	**Knowledge Activities**
Overture	Consensual Alignment with All Stakeholders	• Understand the problem statements from the parent company • Mutually agree and align the objectives and expectations of the CVB project prior to the project initiation • Clearly define the roles & responsibilities of each party	Bidirectional knowledge transfer and knowledge sharing

(Continued)

Table 5.1 (Continued): Corporate Venture Building Stages

Venture Incubation Stage	Venture Building Activities	Goals and Actions	Knowledge Activities
Rudiments	Market Gap Analysis & Positioning	• Exploit, analyze, and configure current capabilities and access resources from both the parent company and outsourced venture builder • Research and explore the market opportunity and competition • Acquire, share, and exchange fundamental business knowledge, startup terminologies, industrial knowledge, and basic domain-specific knowledge • Cultivate an entrepreneurial mentality in the venture team	Knowledge exploitation and exploration, knowledge acquisition, multidirectional knowledge transfer, knowledge sharing
Polyphony	Technology & Product Development, Branding, Sales & Route to the Market, Market Presence & Marketing, Business Model & Investment	• Knowledge sharing among all players • Assemble and integrate different knowledge bases • Leverage existing technology and resources to venture development • Co-create and incubate new knowledge through venture building and development	Multidirectional knowledge transformation, collaborative knowledge building & incubation
Breaking Dawn	Venture Spin-off	• Develop exit strategy for the ventures (pivot to a new concept, phase out, launch a full-fledged spin-off, etc.)	

Managerial Implications

Typically, the R&D department is the source of driving and promoting the company's future innovation, obtaining and sustaining knowledge, and competitive advantages for the firm. (Becker & Gassmann, 2006b) However, the traditional R&D

units have been questioned as they often act as ivory towers isolated from the real world with minimal problem-orientation. Meanwhile, the limited budget also constraints human resources and time. (Teece, 1986) Besides, this isolated nature has limited them to leveraging outsourced technologies and knowledge because of the high "not-invented-here" syndrome. (Becker & Gassmann, 2006b; Leonard-Barton, 1992) The conventional R&D also cannot satisfy and needs of the firms to achieve breakthrough innovation and sustain scalable business and competitive advantages in reaction to the fierce rivals. Under such circumstances, R&D expenditures are increasingly used externally to develop external sources of innovation. (Becker & Gassmann, 2006b)

Corporate incubators have been identified as a buffer between the fast-paced startup world and the slow and complex corporate environment. They can be a significant source of innovation and growth for the established company through entrepreneurial activities. (Weiblen & Chesbrough, 2015) Corporate incubators enable established companies to accelerate growth, exploit existing knowledge, discover new domains, and explore up-to-date technology beyond the core business. (Becker & Gassmann, 2006a; Kötting, 2019) Besides, corporate incubators also provide an environment for the parent company to cultivate intrapreneurship and encourage their employees to create new businesses with potential opportunities to become new business units or spin-off ventures. (Becker & Gassmann, 2006b) Moreover, entrepreneurial talents are the primary driving force for the venture's development.

The balance and trade-off between knowledge exploration and exploitation are also crucial for the companies to sustain their business in the long run. (Levinthal & March, 1993; March, 1991; Robeson & O'Connor, 2007) In the inception of a new venture, a dynamic capability (Madsen, 2010) to develop and evolve the organization through knowledge exploration and exploitation is indispensable. However, the current operational capability of the organization often causes rigidity and competency traps due to the inertia and unwillingness to change (Leonard-Barton, 1992; Levinthal & March, 1993), and the organizational cognitive inertia leads to the competency traps that usually

induce negative consequences in the firms. (Zollo & Winter, 2002) Previous research has revealed that breakthrough innovations are more likely to come from smaller external teams that are relatively more creative and less constrained by the inertia and myopia of larger firms plaguing large established organizations. (Kamuriwo et al., 2017; Schneider & Veugelers, 2010) Given that, the agile venture teams in the corporate incubator can potentially strike a more optimal balance between the stress of wide-ranging explorations of distant knowledge (Kaplan & Vakili, 2015) from external sources and being able to undertake in-depth research. (Kamuriwo et al., 2017)

Therefore, establishing a separated organizational unit when building a corporate incubator is crucial for the corporate to avoid turf battles, whether by leveraging internal resources or insourcing external knowledge and recourses. (Becker & Gassmann, 2006b; Hausberg & Korreck, 2018) A smaller venture team that operates independently of the parent company can be more agile, allowing it to explore and pursue distant knowledge in areas where the giant rigid corporation might not be able to go. (Kamuriwo et al., 2017; Kaplan & Vakili, 2015) The standing along corporate incubator can potentially give the parent company a better chance of incubating new knowledge, allowing the organization to dive deeper into assembled knowledge from different parties and thus carry on the subsequent knowledge incubation and transformation to yield breakthrough innovation. (Kamuriwo et al., 2017)

In addition, from the perspective of the CVB service providers, it is also important to consider strategic alignment with the parent company when facilitating venture-building activities and setting up criteria for selecting new ventures to incubate. They need to evaluate the overall dynamics among the newly developed ventures under development, as the whole corporate incubator is still under the influence of the parent company. (Kötting, 2019) On the other hand, the ventures within the corporate incubator are often active in the same markets. The potential competition might affect the knowledge sharing and networking among the ventures. Thus, if the ventures share a

similar knowledge base, it will limit the chance of cross-fertilizations with other technology or business domains. (Hausberg & Korreck, 2018)

Hence, when assembling knowledge and subsequently incubating knowledge in the corporate incubator, a set of collective solutions and mutual agreements must be defined and determined in each venture team with all stakeholders, including a common lexicon, standard procedure, or shared artifact. (Carlile, 2002) Creating a boundary object (Star & Griesemer, 1989) that can represent knowledge from different groups and develop the shared context among multiple players is necessary. (Carlile & Rebentisch, 2003) Meanwhile, knowledge transfer, translation, and transformation are three progressively complex processes to overcome the three progressively complex knowledge boundaries of syntactic, semantic, and pragmatic. (Carlile, 2004; Carlile & Rebentisch, 2003) Different parties can go through an iterative approach to share and assess knowledge at each boundary level, developing the common lexicon, aligned interpretation, and mutually-agreed interests to consistently address the consequences at the boundaries. (Carlile, 2004) Consequently, to effectively manage the knowledge boundaries and close the knowledge gaps among all parties. This consensual alignment and boundary negotiation (Orlikowski, 2002) with all stakeholders is crucial to initiating knowledge development and throughout the subsequent knowledge incubation and transformation in the corporate incubator.

Limitations and Future Direction

Given that this research is a single case study, even though the researcher has collected evidence from multiple resources and perspectives to create the triangulation between data sources, there are still reliability and external validity limitations. The reliance on resources and perspectives is not comprehensively representative, and the constraints of time and data might lead to subjective bias in the current analysis. Furthermore, as the selected case was still an ongoing project at the time of data collection, this study places more emphasis on the reflection of the mistakes and failures

that occurred in the CVB process, and the lesson learned from various parties. A successful case has not yet been examined. Another limitation is from the relevant literature. Since knowledge management has not yet been widely discussed in startup incubation through corporate venture building, the amount of directly related literature is limited. Also, due to the inconsistent terminology, capturing every relevant contribution in the query output might not be exhaustive enough.

Therefore, it is considered that a longitudinal study on how knowledge is assembled and incubated in the corporate incubator through the corporate venture building process can be conducted in further research. Particularly in the cases when the startups are successfully spin-off and bring investment return to the parent company. A comparative study of corporate incubators operating internally versus those facilitated by the outsourced CVB team could also provide valuable insights. Future research may examine how the capability of corporate incubator players to explore and incubate knowledge in fields unrelated to their incumbent knowledge base can allow all corporate incubator stakeholders to develop new knowledge and thereby foster and sustain innovation consistently. Besides, the ability to create the synergy and balance between the conventional “corporate world” and the unpredictable “startup world”. Furthermore, it may be valuable to investigate the capabilities of entrepreneurial individuals and teams to transfer and reconfigure knowledge to adapt to the new settings and maximize the salvage value when the venture is pivoting or terminating.

BIBLOGRAPHY

Becker, B., & Gassmann, O. (2006a). Corporate incubators: Industrial R&D and what universities can learn from them. *Journal of Technology Transfer, 31*(4), 469-483.

Becker, B., & Gassmann, O. (2006b). Gaining leverage effects from knowledge modes within corporate incubators. *R&D Management, 36*(1), 1-16.

Branstad, A. (2010). A study of management tasks and stakeholders in a hybrid corporate incubator. *European Journal of Innovation Management, 13*(3), 294-312.

Brown, J. S., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science, 12*(2), 198-213.

Carayannis, E., & von Zedtwitz, M. (2005, 02/01). Architecting gloCal (global-local), real-virtual incubator networks (G-RVINs) as catalysts and accelerators of entrepreneurship in transitioning and developing economies: Lessons learned and best practices from current development and business incubation practices. *Technovation, 25*, 95-110.

Carlile, P. R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development. *Organization Science, 13*(4), 442-455.

Carlile, P. R. (2004). Transferring, translating, and transforming: AnoIntegrative framework for managing knowledge across boundaries. *Organization Science, 15*(5), 555-568.

Carlile, P. R., & Rebentisch, E. S. (2003). Into the black box:The knowledge transformation cycle. *Management Science, 49*(9), 1180-1195.

Cook, S. D. N., & Brown, J. S. (1999). Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing. *Organization Science, 10*(4), 381-400.

Davenport, T. H., Davenport, P. D. M. I. S. M. T. H., & Prusak, L. (1998). *Working Knowledge: How Organizations Manage what They Know*. Harvard Business School Press.

de Alvarenga, R., Canciglieri Junior, O., & Zeny, G. (2019). *Venture Building & Startup Studios versus Acceleration Programs – Conceptual & Performance Differences*.

Dougherty, D. (1992, May 01). Intepretive barriers to successful product innovation in large firms. *Organization Science, 3*(2), 179–202.

Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Aldine Publishing Company.

Greve, H. R. (2002). Sticky aspirations: Organizational time perspective and competitiveness. *Organization Science, 13*(1), 1-17.

Hammarberg, K., Kirkman, M., & de Lacey, S. (2016, January 13). Qualitative research methods: When to use them and how to judge them. *Human reproduction (Oxford, England), 31*.

Hausberg, J., & Korreck, S. (2018, January 29). Business incubators and accelerators: a co-citation analysis-based, systematic literature review. *Journal of Technology Transfer*, 1-26. Retrieved from https://link.springer.com/article/10.1007/s10961-018-9651-y

Hill, C. W. L., & Rothaermel, F. T. (2003). The performance of incumbent firms in the face of radical technological innovation. *Academy of Management Review, 28*(2), 257-274.

Hong, J. F. L., Snell, R. S., & Mak, C. (2016). Knowledge assimilation at foreign subsidiaries of Japanese MNCs through political sensegiving and sensemaking. *Organization Studies, 37*(9), 1297-1321.

Kamuriwo, D. S., Baden-Fuller, C., & Zhang, J. (2017). Knowledge development approaches and breakthrough innovations in technology-based new firms. *Journal of Product Innovation Management, 34*(4), 492-508.

Kaplan, S., & Vakili, K. (2015). The double-edged sword of recombination in breakthrough innovation. *Strategic Management Journal, 36*(10), 1435-1457.

Kim, H., Bae, J., & Bruton, G. (2012). Business groups and institutional upheaval in emerging economies: Corporate venturing in Korea. *Asia Pacific Journal of Management, 29*(3), 729-752.

Kohler, T. (2016, May-June). Corporate accelerators: Building bridges between corporations and startups. *Business Horizons, 59*(3), 347-357. Retrieved from https://doi.org/10.1016/j.bushor.2016.01.008

Kötting, M. (2019, July 2019). Corporate incubators as knowledge brokers between business units and ventures : A systematic review and avenues for future research. *European Journal of Innovation Management, 23*(3), 474-499. Retrieved from https:// https://www.emerald.com/insight/content/doi/10.1108/EJIM-12-2017-0201/full/html

Lee, D., & Van den Steen, E. (2010). Managing Know-How. *Management Science, 56*(2), 270-285.

Lehrer, M., & Asakawa, K. (2002, December). Offshore knowledge incubation: the "third path" for embedding R&D labs in foreign systems of innovation. *Journal of World Business, 37*(4), 297-306.

Leifer, R., O'Connor, G. C., & Rice, M. (2001). Implementing radical innovation in mature firms: The role of hubs. *Academy of Management Executive, 15*(3), 102-113.

Leonard-Barton, D. (1992, Summer). Core Capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal (John Wiley & Sons, Inc.), 13*(S1), 111-125. Retrieved from https://doi.org/10.1002/smj.4250131009

Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal (John Wiley & Sons, Inc.), 14*(S2), 95-112. Retrieved from https://doi.org/10.1002/smj.4250141009

Levitt, B., & March, J. G. (1988). Organizational learning. *Annual Review of Sociology, 14*(1), 319-338.

Madsen, E. (2010, January). A dynamic capability framework: Generic types of dynamic capabilities and their relationship to entrepreneurship. 223-243. Retrieved from https://www.researchgate.net/publication/290264399_A_dynamic_capability_framework_Generic_types_of_dynamic_capabilities_and_their_relationship_to_entrepreneurship

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science, 2*(1), 71-87.

Mariano, S., & Awazu, Y. (2017). The role of collaborative knowledge building in the co-creation of artifacts: influencing factors and propositions. *Journal of Knowledge Management, 21*(4), 779-795.

Miller, D. T., & Ross, M. (1975). Self-serving biases in the attribution of causality: Fact or fiction? *Psychological Bulletin, 82*(2), 213-225.

Newell, S., Robertson, M., Scarbrough, H., & Swan, J. (2009). *Managing Knowledge Work and Innovation*. Palgrave Macmillan.

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science, 5*(1), 14-37.

Nonaka, I., & Konno, N. (1998, Spring98). The concept of "Ba": Building a foundation for knowledge creation. *California Management Review, 40*(3), 40-54.

O'Connor, G. C., & DeMartino, R. (2006). Organizing for radical innovation: An exploratory study of the structural aspects of RI management systems in large established firms. *Journal of Product Innovation Management, 23*(6), 475-497.

Orlikowski, W. J. (2002). Knowing in Practice: Enacting a Collective Capability in Distributed Organizing. *Organization Science, 13*(3), 249-273.

Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the Elusive Black Box of Dynamic Capabilities. *Decision Sciences, 42*(1), 239-273.

Rhee, M., & Kim, T. (2015, January-February). Great vessels take a long time to mature: early success traps and competences in exploitation and exploration. *Organization Science, 26*(1), 180. Retrieved from https://www.jstor.org/stable/43663620

Robeson, D., & O'Connor, G. (2007, March-June). The governance of innovation centers in large established companies. *Journal of Engineering and Technology Management, 24*(1), 121-147. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0923474807000082?via%3Dihub

Schneider, C., & Veugelers, R. (2010). On young highly innovative companies: why they matter and how (not) to policy support them. *Industrial and Corporate Change, 19*(4), 969-1007.

Star, S. L., & Griesemer, J. R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science (Sage Publications, Ltd.), 19*(3), 387-420.

Teece, D. J. (1986, December). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy, 15*(6), 285-305. Retrieved from https://doi.org/10.1016/0048-7333(86)90027-2

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal, 18*(7), 509-533.

Weiblen, T., & Chesbrough, H. W. (2015, Winter2015). Engaging with startups to enhance corporate innovation. *California Management Review, 57*(2), 66-90.

Williamson, O. E. (1991). Comparative Economic Organization: The Analysis of Discrete Structural Alternatives. *Administrative Science Quarterly, 36*(2), 269-296.

Yin, R. K. (2009). *Case Study Research: Design and Methods*. SAGE Publications.

Zhou, K. Z., & Li, C. B. (2012). How knowledge affects radical innovation: Knowledge base, market knowledge acquisition, and internal knowledge sharing. *Strategic Management Journal (John Wiley & Sons, Inc.), 33*(9), 1090-1102.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science, 13*(3), 339-351.

APPENDIX

Appendix A
Data Collection Protocol

Section A: Overview of the Case Study

Whatnot Startup Studio is a startup studio that provides venture building as a service. They help incubate new ventures as an autonomous and agile business unit constantly within the corporation. Whatnot is an idea powerhouse with a commercial interest in big scalable ideas. They are a team of passionate entrepreneurs that hustle and fight to get things moving at the speed of light. Corporate venture building (CVB) is the service that Whatnot provides to corporate clients to help them to cultivate radical innovation and incubate new ventures which can potentially transform or even disrupt the original business to the latest market domain. The case study with Whatnot Startup Studio aims to understand the critical role that knowledge management plays in the inception of startup ventures in the firm. Furthermore, understand the challenges and obstacles that venture teams face in the entire process and how they reacted to and overcame the challenges along the journey to sustain the venture development. In this research, the corporate incubator is managed by Whatnot Startup Studio, and Whatnot acts as a knowledge hub for this knowledge generation and incubation process during the inception of a startup. The case study seeks to understand the role of knowledge incubation in achieving breakthrough innovation. The researcher aims to understand the knowledge flow in the knowledge incubation process by conducting the case study. Therefore, answer the research question: *How does knowledge newly created and organized in incubation develop a new startup?*

This main question is followed by three sub-questions:

SQ1: How is knowledge for a startup developed in early incubation?

SQ2: What challenges does knowledge incubation face?

SQ3: How do both a venture building company and the startup venture overcome the challenges in incubation?

Section B: Data Collection Procedures

Whatnot Startup Studio is selected as the case for this research. The key contact person of this case will be the CEO and co-founder of Whatnot Startup Studio. As the researcher has close contact with the company, the researcher can quickly access the team and schedule the interviews with different parties. To observe the co-working sessions and meetings, the researcher will also get permission from the Entrepreneur in Residence (EIR), who acts as the project leads of each venture. The researcher expects to conduct eleven interviews with different stakeholders within four to six weeks, with an average amount of one to two interviews per week.

The researcher will also conduct two types of observation: direct observation and participant observation. The researcher will also attend the working sessions of different ventures such as retrospective meetings, weekly stand-ups, and all-hands meetings to observe the dynamic within the venture team and across other venture teams. By looking at the phenomenon from a third-party perspective, the researchers will identify the venture team's challenges and corresponding solutions in the incubation process. In addition, when multiple stakeholders from different disciplines and specialized domains are involved in the startup incubation process, how do the venture teams effectively identify the boundaries, smoothly communicate, and collaboratively solve problems with different departments. The researcher will attend the onsite and online sessions of the venture building team and note down the participants' key activities, conversations, and behaviors. In addition, the non-verbal interaction and environment will also be recorded, such as meeting room set up, movement, and non-verbal expression of the participants. Video or audio recording may also be operated with the participants' permission.

Moreover, participant observations will also be undertaken. The researcher will

also participate in some working sessions and workshops with the venture team to have a more immersive experience and observe the phenomenon from a different point of view. This participant observation can also allow the observer to have more casual interactions with the participants, which helps build more trust with the team and reduce respondent bias. The researcher will record the key takeaways gained from the participant observations immediately after the sessions. At least three direct observations and two participant observations will be conducted throughout the data collection.

Section C: Interview Questions

The semi-formal interviews will be conducted with different parties in the corporate incubator, and the question that can potentially be addressed can follow several topics as follow.

1. General questions about venture building and radical innovation. These questions will mainly be asked to the management level, namely the Whatnot co-founders and EIRs.
    a) Why should corporate do venture building or build their corporate incubator?
    b) What are the biggest challenges and obstacles when building the corporate incubator?
    c) Why did the venture fail? What are the key factors that lead to success?
    d) How has the new knowledge been developed through the process?
    e) What makes Whatnot Whatnot?
    f) There's no one way or perfect way to build a successful startup, but how to ensure the success of the ventures that we're building?
    g) What are the challenges of this knowledge incubation process (venture building), and how did it occur? How did you deal with these challenges?
    h) What are the necessary ingredients to enable the radical or breakthrough innovation that might potentially disrupt the original business?

i) What are the obstacles that block you from achieving innovation?

2. Knowledge exploration and exploitation. These questions will mainly be the questions for the venture team members from the parent company to understand the difference they have experienced in the innovation venture team compared with their previous working experience in the corporate environment.

   a) How has your previous experience or domain-specific knowledge affected your current tasks and performance in the venture building process? How have you overcome and avoided it?
   b) What knowledge or skills have you accumulated from your previous experience significantly helped you or the team in the new venture development?
   c) What knowledge or expertise from what you were working on before might influence or limit your performance when building a new venture in a whole new domain?
   d) What challenges and obstacles have you faced since you joined the venture team that might have a different working mode than your previous experience?
   e) How have you balanced the risk and uncertainty from exploring new market opportunities and developing or reconfiguring the current resources more safely?
   f) How has your knowledge from previous experience affected or contributed to your current venture development work?

3. Boundary management. This topic is mainly for the EIRs, project managers, venture team members, and service providers who regularly work with different parties and need to deal with coordination and communication across diverse backgrounds.

   a) Could you please describe how a typical day for you look like?
   b) What are the boundaries Whatnot is facing when dealing with different stakeholders in the hybrid corporate incubator? (Employees, client company, service providers, etc.)
   c) How to integrate different knowledge from these diverse players in the process?

d) How do you deal with the boundaries that occur in the venture-building process?
e) What are the inevitable difficulties you have faced when dealing with different stakeholders from multiple backgrounds?
f) If any, can you share a story or previous experience of miscommunication with the venture team members? What do you think are the reasons that cause this miscommunication or misunderstanding, and how do you think we can optimize the process and overcome these barriers?

4. Agility and speed. This topic is also more for the management level of the venture development to understand the factors that might affect the pace in both micro and macro way.

   a) What are the key factors that can ensure the speed of the venture-building process?
   b) What are the obstacles that slow down the whole process of venture development?
   c) What have you observed in the daily operations that affect the speed or slow down the process?

Section D: Tentative Outline for the Case Study Report

The original collected qualitative data will be codified and iteratively compared regarding different themes and topics. The themes will mainly divide and structure into knowledge incubation, breakthrough innovation, competency trap, knowledge boundaries, and boundary negotiation. The findings will provide the companies, especially established ones, a point of view on achieving radical innovation through knowledge incubation and the importance of boundary negotiation among multiple parties. These findings can also apply to a similar situation in different formats of venture building in various types of business—for example, family businesses, independent venture building companies, or the established companies seeking a business transformation and breakthrough innovation.

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