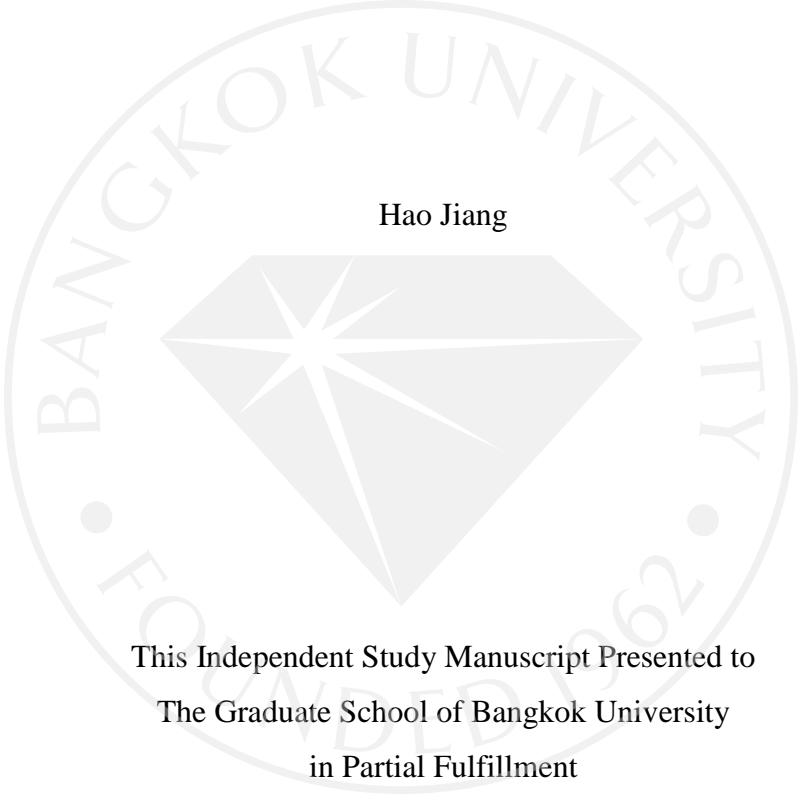


HOW TO BUILD INNOVATION CULTURAL IN BAISE UNIVERSITY



HOW TO BUILD INNOVATION CULTURAL IN BAISE UNIVERSITY

Hao Jiang



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ABSTRACT

With the continuous change of global integration and competitive environment, innovation and innovation culture has become the eternal theme. Innovation is an important embodiment of school education function. Innovation culture, as one of the core content and essential characteristics of school culture, plays an important role in cultivating innovative talents, being engaged in scientific research and innovation activities and promoting social progress. Taking the innovative cultural construction of Baise University as the research sample, through the literature review, questionnaire survey and interview, the article clarifies the status quo of innovative cultural construction and the importance of innovative cultural construction, and puts forward the innovative cultural construction methods to provide theoretical support for the innovation and construction of Baise University.

Keywords: Innovation, Innovation Culture, Build

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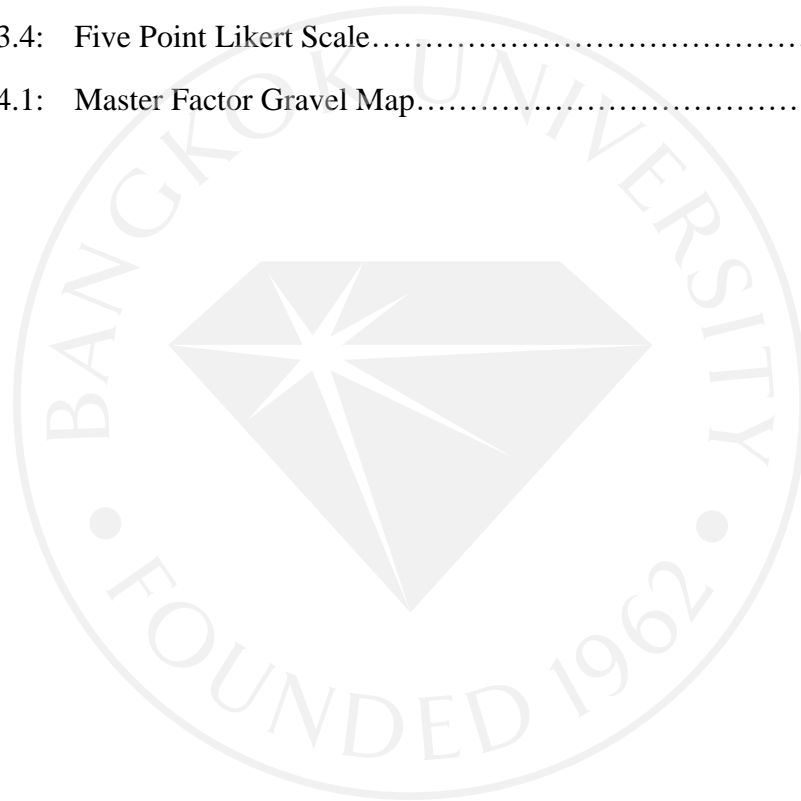
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CHAPTER 1

INTRODUCTION

This chapter discusses the research background, research questions, research objectives, research scope, and research content framework.

1.1 Research Background

Schumpeter (1934) first introduced the concept of innovation into the field of economic development, and defined it as a combination of new production factors. He believed that innovation focused more on the technical level. In his view, in the case of increasingly fierce price competition, the competition is more of a new product or service, a new industry or a new type of organization. And innovation must be able to bring benefits to the enterprise, and innovation without effectiveness, or innovation without economic benefits, cannot really be called innovation. With regard to innovation, it can be thought of as the application of new products or innovatively developed products, be it goods, services, application of production processes, new marketing methods, etc. Innovation can also be considered as the first generation and promotion of some new idea in the market. These new ideas can bring something new to the market (West & Richards, 1999). In the past nearly 80 years, the world has changed a lot, and the trend of globalization has intensified. Most of these changes are caused by innovation. Innovation increases competitiveness, efficiency and productivity. On the one hand, innovation drives economic growth and plays an important role in world society. Baumol (2002) concluded that almost all economic growth since the 18th century was due to innovation. Innovation is also important to the organization, and innovation has a positive impact on the organization. Innovation can make organizations stronger. Innovation can enhance the competitive advantage of organizations, help create efficiency and promote their development. In addition, innovation has a great impact on employees. Encouraging employees to innovate will bring great benefits to the organization. Brynteson (2010) also believes that if companies allow their employees to be innovative and creative, their employees will become happier and their morale will be higher. Similarly, (Santos-Vijande & Alvarez-Gonzalez, 2007) also believes that innovation is very important for

organizations, whether it is long-term survival or development, innovation can allow organizations to keep up with the rapid development of the market.

Of course, innovation is not only important for organizations or businesses, but also for universities. Al-Youbi, Zahed, Nahas, & Hegazy (2021) believes that the utilization of innovation in the field of education and scientific research of the university can create more income for the university. Al-Shar'ee (2005) argues that universities must break some constraints, such as traditional teaching methods and research methods. Pay more attention to creativity and the innovation process.

Therefore, innovation makes our world a better place. However, Baise University still needs to further strengthen its innovation.

Bharadwaj and Menon (2000) believed that the innovation climate can predict the innovation behavior and innovation performance of the work team. Koc (2007) proposes that organizations influence innovation performance to some extent, whether they have a common culture or work practices and behaviors that encourage innovation. From the perspective of universities, (Roffeei, Yusop, & Kamarulzaman, 2018) believes that universities are willing to change new ways of doing things according to the requirements of innovation, because students' innovative behaviors are likely to be manifested in a cultural environment that the university needs Foster an innovative cultural environment.

As one of organizational cultures, innovation culture is very important for organizations. If an organization wants to be more successful, building innovation culture can help them be more successful. Gloet and Terziovski (2004) argues that in the face of pressure from competitors, companies not only need to quickly adjust their innovation strategies, but also need to focus more on building an innovation culture that takes full advantage of the existing expertise within the organization and its employees. According to his definition of an innovative culture we can see that people emphasize innovation in an innovation culture. Innovation is a key element of innovation culture. Nowadays, more and more universities are making efforts to build their innovation culture in order to improve their reputation and competitiveness. However, Roffeei, Yusop and Kamarulzaman (2018) pointed out that the research on innovation culture is more in the field of management and not much in the field of higher education environment.

Al-Youbi et al. (2021) pointed out that universities need to spread innovation culture among faculty members, encourage their creativity, and strive to build an innovation environment. If a university wants to innovate, it should allow the innovation culture to flourish in the university.

Building innovation culture in Baise University is conducive to improving the competitiveness. Innovation can increase productivity, increase efficiency, and increase competitiveness. These factors are not only beneficial to create more new employment opportunities, but also make workers' wages higher, which has also contributed to the national economy. However, Hariri and Roberts (2015) argues that in today's increasingly fierce competition among universities, how to reduce costs? How to add new revenue streams? Innovation in these two areas is seen as a crucial factor by an increasing number of universities.

Scott and Bruce (1994) pointed out that innovative behavior is the behavior that may be manifested in the cultural environment of innovation-oriented university practice. Building innovation culture in Baise University can train teachers and students innovative behaviour.

How to build innovation cultural in Baise University? Roffeei, Yusop and Kamarulzaman (2018) argue that institutionalizing innovation is the key to an innovation culture and requires a constant desire for improvement.

All these factors and trends have a great impact on the culture within the organization. As a result, we have changed our programs and methods of shaping culture. We want to investigate how Baise University is building innovation culture in this context, and what aspects are important to building innovation culture.

1.2 Research Questions

The key to this IS lies in how to build an innovative culture to improve the innovative ability of teachers and students in Baise University? Therefore, my research questions are mainly in the following aspects:

1.2.1 How to use a mixed approach to determine the need for Baise University to build innovation culture?

1.2.2 What aspects need to be strengthened in the existing cultural construction to meet the needs of teachers and students for innovative culture?

1.2.3 What are the areas that need to be improved, so that more teachers and students will use Baise University as a place to enhance their innovation ability?

Baise University is an application-oriented university, adhering to the Baise spirit of "perseverance, dedication, struggle, unity and pragmatism, and striving for innovation", aiming to cultivate high-quality application-oriented talents. With the proposal of the "Belt and Road" initiative and the implementation of national development strategies such as the revitalization plan of the Youjiang Old Revolutionary Area, Baise College has ushered in a historical opportunity for leapfrog development. However, from the current point of view, the innovation atmosphere of Baise University is not enough, there are still many deficiencies in the construction of innovation culture, and the enthusiasm of teachers and students to take the initiative to innovate or participate in the innovation is not high enough.

1.3 Research Objective

Using qualitative analysis and quantitative analysis methods, this paper proposes the strategy of build innovation culture by summarizing some views and suggestions of teachers and students. It provides a theoretical basis for the construction of Baise University, so as to build innovation culture and improve the competitiveness of Baise University.

1.4 Research Scope

This research mainly focuses on Baise University. With the innovation and innovation culture more and more universities pay attention to. The reason is that innovation can improve the credibility and competitiveness of universities. By understanding the innovative atmosphere of Baise University and the innovative behavior of university teachers and students, this study further discusses the importance of build innovation culture in Baise University. Therefore, the results of this study can provide suggestions for Baise University to build innovation culture.

1.5 Research Content Framework

This article includes: Raising Questions - Analyzing Questions - Summarizing Questions. The research content framework: Raising Questions (Chapters 1, 2), Analysis Questions (Chapters 3, 4), Summary Questions (Chapter 5).

Chapter 1: Introduction. This chapter mainly expounds the research background of research, raises research questions, research objectives and scope of research.

Chapter 2: Literature Review. Find and read some of the main literature related to this research topic, and summarize the theoretical basis of this study, namely, innovation, innovation culture, university innovation culture, how to building innovation culture, etc.

Chapter 3: Methodology. This chapter focuses on some of the method designs and associated steps employed in this study, as well as the survey respondents for quantitative and qualitative methods and so on.

Chapter 4: Data Analysis. This chapter mainly conducts statistical analysis on the data obtained from the questionnaire survey results.

Chapter 5: Conclusion and Discussion. This chapter mainly summarizes the research, and its influence, comments and suggestions on the follow-up research.

CHAPTER 2

LITERATURE REVIEW

This chapter mainly introduces the literature related to reading and the research topic of this paper, and summarizes the theoretical basis of this research, That is, innovation, innovation culture and how to build innovation culture and other related discourse.

2.1 About Innovation

About innovation, experts and scholars from different ages in different countries have expounded on innovation. It was first proposed by Schumpeter, who defined innovation as creative destruction, which means that disruptive forces disrupt current market conditions while creating new forces through new combinations (Iwai, 1984). The essence of innovation lies in a process of using innovation tools to understand the concept of innovation and allow for a dynamic that innovation can create in an organization (Malloch, 2010). Of course, innovation can also be widely thought of as the implementation of discovery and intervention, as well as the process of new outcomes, whether systems, products, or processes (Gloet & Terziovski, 2004).

West & Farr (1990) defines innovation as the deliberate introduction and application of ideas, processes, products or procedures within a role, team, or organization, which are new members of the relevant adopting unit, whose primary purpose is to benefit individuals, teams, organizations or more broad society. Hamel (1999) believes that innovation is a significant departure from traditional management processes, management principles and practices, or a new way of performing management work that significantly changes the traditional organizational form. In other words, innovation is a form of presence, ranging from disruptive to mildly benign environments (Christenson, 1997).

In the early 2000s, someone conducted a global survey of 700 organizations. The survey results show that 84% of business elites believe that innovation is an important factor in today's business competition (Dundon, 2002).

Herkema (2003) considers innovation as a knowledge process aimed at creating solutions for innovation culture and business development. He also supports that innovation is not just the adoption of new behaviors or ideas in an organization, but also new technologies, new products or new services. Innovation is also widely regarded as a process of discovering and implementing interventions and producing new outcomes (Gloet & Terziovski, 2004). Innovation is a method, a new method different from the traditional method. Innovation is a way of thinking, which is different from ordinary ideas or traditional ways of thinking. It mainly uses the existing materials and knowledge in a specific environment, through the creation or improvement of new things, environments, methods, etc., to achieve the effect of satisfying certain social needs.

Considering the above point of view, it can be seen: The concept and connotation of innovation are also evolving with the change of The Times and the development of society. Nowadays, innovation has become a hot topic, and innovation has played a more and more role with more and more important attention.

2.2 About Innovation Culture

There is much literature on innovation and culture. However, about the concept definition of innovative culture, the academic circle has not been unified. In the Sino-foreign comparison of innovative culture, domestic research mainly focuses on the comparative research of innovative culture in relatively typical innovative countries, such as the United States, Japan and Germany. Scholars at home and abroad basically realize the importance of innovative culture for the prosperity and development of innovation activities. However, the connotation and different extension of innovative culture have different positions. "About the discussion of

innovation, confused the connotation of different types of innovation, to its political significance, policy (Chen & Su, 2009). People cannot clearly realize the specific meaning of innovative culture, leading to its fuzzy concept, thus affecting the understanding of innovative culture. Secondly, from the perspective of the research on innovative culture, the literature has the characteristics of emphasizing qualitative and lightweight, and the lack of empirical research results and systematic theoretical model support. Most of the research choices on innovative cultural construction start from a certain perspective, with certain limitations. There is still a lack of research on the interaction. Rao and Weintraub (2013) once made such an assertion that he mentioned that innovation culture is the sum of an organization's behaviors, resources, values, and successes, which lead to an organization's improved ability to innovate its products and services. Dobni (2008) argues that innovation culture is a multidimensional context, including the intent to innovate, the infrastructure that supports innovation, the operational-level behaviors needful to influence the market and purposes, and the environment in which innovation is implemented.

In 2001, the Opinions of the CPC Leading Group of the Chinese Academy of Sciences defined the innovation culture as "an atmosphere conducive to innovation activities that is the sum of the group innovation spirit and forms of expression related to the overall value standards generated in scientific and technological activities".

Jin (2006) believes that in view of the western mechanical composition culture, the traditional Chinese culture is the overall theory of generation culture, which emphasizes the view of innovation with a systematic point of view, actively cultivate the innovative culture with Chinese characteristics, and realize the transition from adaptive culture to generative culture. Wu (2012) through the analysis of two typical innovation culture, and compare the new era of innovation culture construction in China advantages and limitations, think that in the process of building innovation culture in our country should boldly absorb the advanced experience of developed

countries, follow given priority to with me, eclectic, spiral principle to constantly optimize our innovation culture.

Simpson, Siguaw and Enz (2006) believes that companies need continuous innovation. A business must change its culture with the aim of developing a corporate innovation culture .So innovation culture is very important for a company.

Subramanian (1996) believes that the main difference between innovative and non-innovative organizations lies in their organizational characteristics. Dombrowski et al. (2007) described 8 elements in organizational innovation culture, which have been listed as innovation vision and mission.

Roffeei, Yusop and Kamarulzaman (2018) argues that innovation culture is part of the management concept and organizational culture. The concept encompasses 3 cultural dimensions: cultural levels of diversity (i.e. underlying assumptions, norms, values, and beliefs); these levels of diversity need to be shared among institutional members (teachers, students, supporters, etc.); culture is influenced by history and Environmental and social impacts, which have an impact on the behavior of members. As far as schools are concerned, the traditional teaching methods of schools or some conventional ideas are challenged by new ideas or innovations.

Fralinger and Olson (2007) argues that the creation and implementation of new ideas are supported by innovation culture. Beliefs and values are communicated non-verbally and verbally, and they shape the behavior of organizations and individuals. These behaviors can be communicated through institutional norms, rituals, spoken words, or stories (Hogan & Coote, 2014).

Padilha and Gomes (2016) believes that innovative culture as the basis of growth for economic development and may become a source of sustainable competitive advantage is crucial for organizations that want to survive in the market, which is one of the factors that stimulate innovation.

Shi and Nie (2018) believes that innovative culture is the spirit of innovation in culture, and relative independence, which is conducive to the creation of nature, the

formation of innovative thinking and the formation of innovative behavior, supporting innovative behavior can promote the construction of innovation culture.

Sui (2013) believes that innovation culture will improve human being's understanding of the role of science and technology, bring a vibrant spirit of scientific innovation, guide the society to respect the individual development of scientific and technological innovators, and cultivate their scientific world outlook and correct outlook on life and values.

Chen (2007) believes that innovative culture is an important task in building an innovative country, in the region Independent innovation is of great significance, which is also reflected in a cultural "soft power".

He (2009) believes that the innovative spirit, innovative consciousness and cultural environment all belong to the extension of innovative culture. The so-called innovation culture is a cultural and ecological environment conducive to promoting innovation motivation, improving innovation ability and stimulating innovation activities. It comes from the value concept, behavior code and development direction of innovation practice and guiding innovation activities. At present, the basic consensus of innovation culture is: at the spiritual level, to form innovation as the core, to follow the scientific spirit and respect the democratic tradition oriented values; at the institutional level, has a strict, scientific and reasonable institutional norms; at the basic level, with advanced ideas, distinctive organizational image.

Ge (2016) believes: "innovation culture is a kind of can stimulate individual creativity, promote organizational innovation behavior, and can help enterprises quickly cope with the external environment change a culture, innovation culture is a combination of internal spirit and external performance, mainly including encourage innovation values, code of behavior and layers." As a system, innovation culture generally includes values, institutional system, cultural environment, scientific and technological innovation, etc. Among them, the value of innovation is the core essence of innovation culture, which is embodied in change consciousness,

transcendence spirit, and tolerance of failure. Innovative culture has an imperceptible function in stimulating people to create innovative culture, and guides people to invest in innovative practice through shaping people's innovative values. Innovation culture is a kind of behavior culture, and a side of the overall social culture. It guides the innovation process by changing people's values and norms of behavior. As an environmental factor, it affects or restricts the innovation process, and also acts as a potential factor that permeates the innovation subject, which affects the behavior and expression of innovators. Innovation culture is different from cultural innovation. The main difference lies in that innovation culture, as a cultural form, and its core is to cultivate the value concept to adapt to innovation activities. Cultural innovation focuses on the continuous enrichment, improvement and development of its own elements, which is the internal driving force of cultural self-development. Innovation culture is the result of cultural innovation, and cultural innovation is the premise and condition for the survival and development of innovation culture.

To sum up, although there has been no unified academic definition of innovation culture in the academic circle, different scholars discuss the connotation of innovation culture from different perspectives, including values and ecosystem perspectives, which not only enriches the specific connotation of innovation culture but also broadens the research extension of innovation culture. I myself also agree with Yu Jie Jie's point of view.

2.3 About the University Innovation Culture

Nowadays, more and more universities are making efforts to build their innovation culture in order to improve their reputation and competitiveness. However, most of the research on innovation culture appears in the field of management, and there is not much research on innovation culture in higher education (Roffeei, Yusop, & Kamarulzaman, 2018).

Many universities have done a lot of meaningful things to encourage students' innovation and creativity, such as offering courses on innovation, involving students in some projects, and developing some mechanisms. In this way, students' innovation, creativity and cognitive function are improved. As Cropley and Cropley (2007) argues, most creativity comes from perfect incentives and creative projects, such as not rejecting creative ideas and brainstorming.

Zubair and Shaoki (2011) believes that the position of creative capital in competition is very important. The real value of any institution lies in creative capital, human or intellectual, such as some high-quality mental capacity and new ideas. Of course, the same goes for universities. In order to make their institutions more competitive and profitable, the leadership of some creative intellectuals will come into play who will turn their ideas into valuable technologies, services or products.

Innovation is supported by a learning culture, openness culture, risk-taking culture, communication and couple back, a culture that is critical to innovation, as concluded by studying a case study of the RMIT University experience in Australia (Kenney, 2002). To be sure, a supportive innovation culture is one of the strategic sources of support for innovation. Such as sharing knowledge and teamwork. It also includes incentives or incentives for employees to engage in innovation-related practices, or to participate in relevant collaborations with other institutions to enhance innovation skills (Brennan et al., 2014). It can also provide relevant teams or resources for carrying out innovation-related practices (Kenney, 2003).

University culture of innovation is a kind of cultivating innovative talents as the core, by creating a conducive to improving the students' innovation consciousness, cultivate students' innovative spirit, play to the spiritual and cultural environment of university students' innovative potential, organize rich innovative school garden cultural activities, to improve college students' innovative quality of the new campus culture. It is a new type of culture that develops and innovates traditional campus culture to meet the strategic requirements of building an innovative country and an

innovative university. In terms of school education, innovation culture is a kind of mother culture, the cradle of cultivating innovative ideas and breeding innovative talents, and an important carrier to realize the mission of school education. In the era of knowledge economy, in order to achieve the grand goal of building an innovative country, to constantly promote the innovation cause and to enhance the ability of independent innovation, the key lies in innovative talents, and the train of talents mainly depends on education. The school education system with the mission of cultivating all kinds of talents is of course the main force of building an innovative country and improving the ability of independent innovation. Innovation is an important embodiment of the function of school education. As one of the core content and essential characteristics of school culture, innovation culture plays an important role in cultivating innovative talents, carrying out scientific research and innovation, and leading social progress.

Innovative culture is a benign internal driving force for universities. On the surface, the innovation culture of colleges and universities can improve the innovation ability of universities, but deeply speaking, the college innovation culture changes not only the innovation ability of universities, but also includes the education quality and college culture innovation under the innovation ability. Colleges and universities promote development with innovation, actively build innovation culture, the purpose is to integrate innovation culture into the all-round development of universities, and the construction of innovation cultural environment is very important to promote the implementation of innovation and development strategy in universities. The generation and development of innovative cultural environment is the result of the interaction of innovative thinking and innovative practice, which comes from the process of innovation. At the same time, the innovative cultural environment can promote and guide the development of innovative thinking and innovative practice in colleges and universities, which can guide the change of practical values, promote the

practical development of thinking and cognition, and realize the spiritual drive of innovation.

China's former minister of Education, pointed out: "To vigorously strengthen the construction of campus culture of innovation, a new culture is a kind of advanced culture, culture is a kind of development, strengthen the building of campus culture, to improve people's scientific quality and scientific spirit of form, scientific moral culture as the important content, to carry forward the emancipate the mind, bold question, innovation, positive spirit, We should have the tolerance of failure, the cultivation of devotion to research, the rigorous and realistic style of study, overcome the tendency of seeking quick results and instant profits, and abandon the impetuous wind"

To sum up, although there are still relatively few research on innovative culture in universities, universities are the main base of knowledge innovation and knowledge dissemination, and the place to train innovative mind and creative talents. The innovation culture of colleges and universities focuses on cultivating innovative talents. Through building innovation culture, it is conducive to improving the innovation consciousness of all college personnel (including students), cultivating the innovation spirit, giving full play to the innovation potential, and constantly improving the innovation quality of all personnel. Therefore, the construction of innovative culture in universities is to meet the requirements of the development of The Times, an important measure to improve the competitiveness of schools, and an important way to cultivate innovative talents. The necessity for universities to build innovation culture is obvious.

2.4 About How to Building Innovation Culture

Through the previous review, experts and scholars from different countries and different ages have discussed innovation, innovation culture and university innovation culture, and also understood the importance of innovation and innovation

culture. Experts and scholars from different countries and different ages also expounded how to build innovation culture on this.

To build an innovation culture, employees need to be encouraged to actively participate in innovation programs and create more new ideas, which require teamwork and knowledge sharing among employees (Duerr, Holotiuk, Wagner, Beimborn, & Weitzel, 2018).

An effective way to promote collaborative innovation needs to break down the boundaries of different organizations and carry out collaboration between multiple different organizations; such as teaching sharing and knowledge sharing between different business units and different alliances.

Koskinen, Pihlanto and Vanharanta (2003) believes that if there are members of different backgrounds and different occupations in the team, then the team's achievements in innovation will be more prominent. In addition, if there are members in the team who not only have different knowledge backgrounds and rich professional experience, but also work very conscientiously and confidently, other members are more willing to cooperate with such colleagues.

Oldham and Cummings (1996) believes that some leaders can create a creative work environment because they can provide support for employees' innovation, and this support is continuous, rather than giving employees more constraints. Employees often communicate effectively and openly with leaders, so that they can get more support from leaders, which can not only promote creativity in the workplace, but also increase the number of departments within the company, between employers and employees, and between employees and leaders. Knowledge exchange and knowledge creation between them, so as to continuously improve the integrity and effectiveness of knowledge management (Tierney, Farmer, & Graen, 1999).

If the innovation culture in an organization is doing well, then the members of the organization are allowed to exchange information, share knowledge and

experience with each other, and they help each other in their work, collaborate with each other, communicate with each other, and find out together Problem-solving ideas and methods. Organizational learning cultures stimulate acceptance of new ideas (Hurley & Hult, 1998), introduce and implement new ideas (Alegre & Chiva, 2008), and improve cross-professional and cross-departmental collaboration and sharing of ideas (Sampaio & Perin, 2006).

Institutionalizing innovation is a key to an innovation culture and requires a constant desire to improve. Highly innovative universities, their innovative cultural environment is supported and welcomed by students. In such a university, students' professional knowledge and technical ability cannot only be improved, but also allow students to learn to team and do and share in such an environment. In such a university, interpersonal relationships will be better, and innovative behavior and teamwork will be encouraged and supported in such an environment (Roffeei, Yusop, & Kamarulzaman 2018). Therefore, building an innovative culture requires not only population employees and rewarding employees, but also a good infrastructure, so that employees can cultivate and develop team spirit in a good working environment.

CHAPTER 3

METHODOLOGY

This chapter mainly discusses some of the research methods used. The steps for mixed-method design are described in detail in the second section. Qualitative and quantitative methods and survey respondents are described in detail in the third section. The development and quality of the tools are described in detail in the last section.

3.1 Mixed-Method

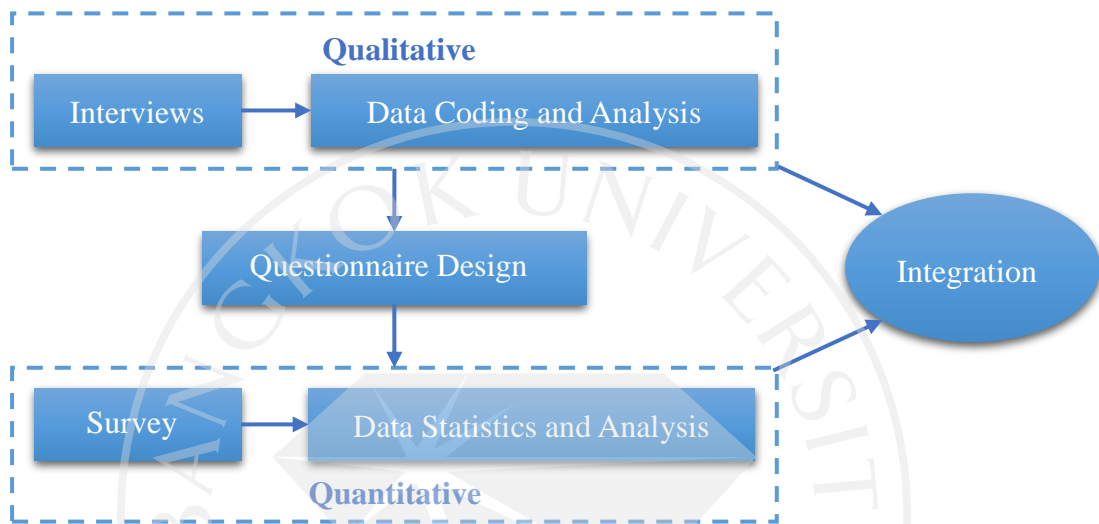
3.1.1 Qualitative analysis. In this process, we need to process the collected relevant materials. The main method is: induction-analysis-synthesis. Through this method, we can better understand the relevant nature of things and better understand the internal laws of things.

3.1.2 Quantitative analysis. Using this method can not only deepen the understanding of the research object, but also make qualitative analysis more accurate and scientific, and quantitative analysis can promote qualitative analysis to draw broad and in-depth conclusions.

The research method used in this study is mainly mixed methods, the first method is qualitative analysis, and the relevant conclusions of qualitative analysis are drawn. The next method is quantitative analysis, which is mainly to quantitatively analyze the results obtained from the previous qualitative analysis. In order to find relevant conclusions, it is also necessary to combine qualitative analysis and quantitative analysis to analyze and integrate the data. This study is based on depth interviews on how to build innovation culture in Baise University. According to the answers of the respondents, I understood the current situation and questions of build innovation culture in Baise University, and put forward some suggestions on how to build and related improvements. Based on qualitative analysis and summary interview data, the questionnaire on the construction of innovative culture by teachers and students of Baise University with a number of evaluation indicators was created, and the questionnaire was distributed to users online to fill in to receive the all-sided evaluation data of Baise University for statistical analysis and summary.

This mixed-method is mainly a combination of interviews (qualitative analysis) and questionnaires (quantitative analysis). The specific research process is shown in Figure 3.1.

Figure 3.1: Process of the Mixed-method



3.2 Research Design

The development of the questionnaire was based on interviews and narrative coding. Research design framework based on mixed methods research and the existing interview guide of Baise University on how to build innovation culture.

The task in this process is very arduous. I have read nearly 60 literatures and preliminarily confirmed the relevant keywords of the innovation culture construction of Baise University through interviews. Therefore, a conceptual framework for this IS was identified and a comprehensive and meaningful questionnaire on how to build innovation culture was produced.

For the quantitative design, collection and coding and classification of possible variables and parameters for the qualitative results and framework to assess the consent and opinions of teachers and students at Baise University.

To better design open-ended interviews and confirm how Baise University constructs identification indicators of innovative culture, this chapter conducts

research according to the following steps:

1) According to the subject and research problems of my IS, I have a elementary understanding of the construction of innovative culture of Baise University, and summarized some key words. For example, Baise University supports the construction of innovative culture, builds innovation system, builds innovation atmosphere, encourages teamwork, encourages innovation behavior, encourages teachers and students to be creative, communicate and be confident, and builds an open exchange platform.

2) Search for the corresponding keywords in nearly 60 related literatures, and find the commonalities and corresponding points of innovation culture in all kinds of relevant materials. And design open-ended interview questions based on these keywords.

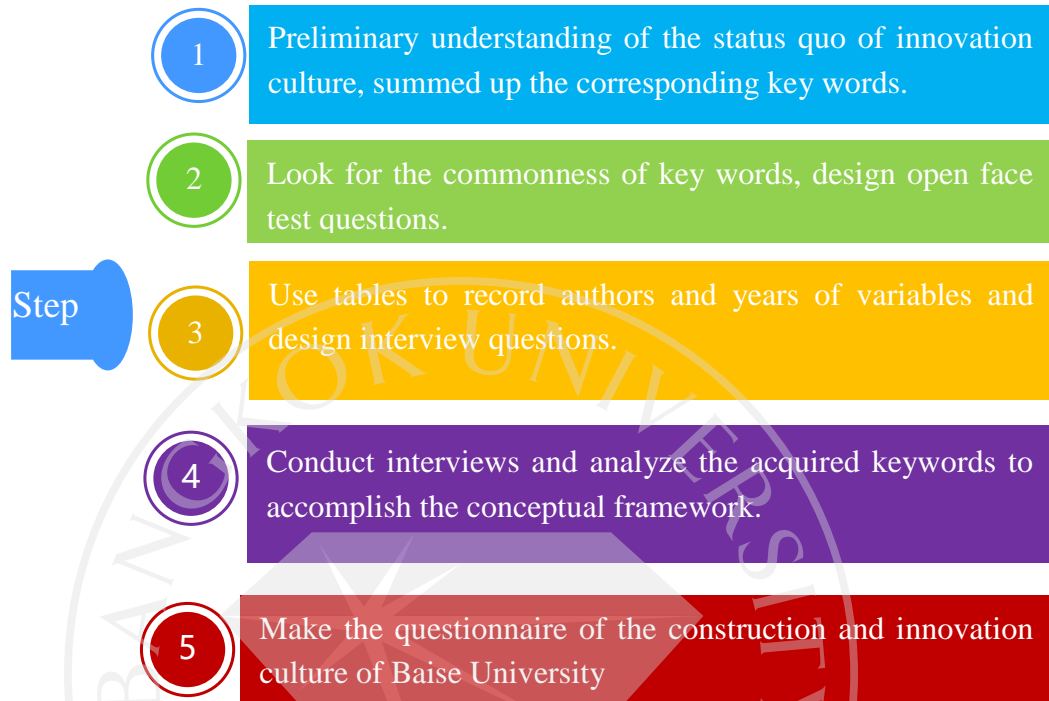
3) Organize and record articles, keywords, literature and other materials into corresponding tables for more intuitive presentation. And create a list of interview questions based on that.

4) Interview the teachers and students of Baise University, Analysis of keywords obtained in interviews, and then combined with the literature to classify and summarize the keywords. For example, the importance of innovation, the importance of innovation culture, innovation system, innovation atmosphere, innovation ability, innovation behavior, teamwork, innovation platform, communication and confidence. Conduct analysis of keyword classification to inspect its reliability and correctness, determine the innovative culture consistency evaluation index of Baise University, and on this basis complete the conceptual framework of my IS.

5) Make the innovative questionnaire of Baise University. According to the interview variable keywords and data, a question about how to build an innovative culture in Baise University is designed.

The research process and steps on how to build an innovative culture in Baise University are shown in Figure 3.2.

Figure 3.2: Determine the Steps of Constructing Innovative Culture in Baise University



3.3 Data Collection

3.3.1 Keyword collection

According to the subject and research questions of my IS, the current situation and problems of building innovative culture in Baise University, some key words are summarized. The comprehensive variables of the articles and literature related to the culture of innovation are in Table 3.1

Table 3.1: Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
Support from Baise University	Feng, Fang & Li, (2019)	Q1: How satisfied are you with the current innovative culture of Baise University?	Q1.1: Whether Baise University offers a course on innovation?
	De (2000)		Q1.2: Does Baise University support innovation?
	Koskinen et al. (2003).	Q2: Do you think Baise University will support to build innovation cultural?	Q2.1: Do you think an innovative culture is good for Baise University? Q2.2: Do you think Baise University strongly supports the construction of innovative culture?
	Biao (2018) Kang (2019)	Q3: Do you think innovation cultural will be important in the future?	Q3.1: Do you think the innovation culture is important in the future?

(Continued)

Table 3.1 (Continued): Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
Innovation atmosphere	Li (2017) Tierney et al. (1999) Janz, & Prasarnphanich (2003)	Q4: What kinds of system of innovation cultural building which already in place?	Q4.1: Do you think building an innovation platform is useful for the construction of innovation culture of Baise University? Q4.2: Do you think creating R & D systems is important for a culture of innovation? Q4.3: Do you think creating R & D systems is important for a culture of innovation? Q4.4: Do you think it is important to create innovation knowledge database for innovation culture?

(Continued)

Table 3.1 (Continued): Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
Innovation atmosphere	Wu (2019)	Q5: How satisfied are you with the current culture atmosphere of innovation at Baise university?	Q5.1: How do you view the innovative cultural atmosphere of Baise University? Q5.2: Do you think creating an innovative atmosphere is useful for Baise University to create an innovative culture in Baise University?
Innovate cultural system	Koc (2007) Bojana (2020)	Q6: Does Baise University have policies and systems to support the creation of an innovative culture?	Q6.1: Has Baise University introduced an innovation system? Q6.2: Do you think the creation of a patent system is important for a culture of innovation?

(Continued)

Table 3.1 (Continued): Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
Innovate cultural system	Zhu Mengyuan (2021) Bharadwaj & Menon (2000)	Q7: How do you think that Baise University needs to do about in building innovation culture?	Q7.1: Do you think Baise University strongly supports the construction of innovative culture in policies and system? Q7.2: Do you agree that effective incentives will help to build innovation culture at Baise University?
	Zhang Jianwei et al. (2022)	Q8: Do you think encouraging teachers and students to be creative can build innovation cultural?	Q8.1: Do you think encouraging teachers and students to be creative can build innovation cultural?

(Continued)

Table 3.1 (Continued): Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
innovative behaviour	Wu (2020) Roffeei, Yusop, & Kamarulzaman (2018) Oldham & Cummings (1996)	Q9: Do you think innovation behavior is promoting the construction of innovation culture?	Q9.1: Do you think the innovation culture can improve the innovation ability of the teachers and students of Baise University? Q9.2: Do you think the innovation behavior promotes the construction of the innovation culture? Q9.3: Do you think Baise University encourages teachers and students to innovate?
communication and self-belief	Roffeei, Yusop, & Kamarulzaman (2018)	Q10: Do you think that communication and self-belief is the key to building a culture of innovation?	Q10.1: Do you think that communication and self-belief is the key to building a culture of innovation?

(Continued)

Table 3.1 (Continued): Find the Interview Questions on Comprehensive Variables Related to Innovation Culture

Variable from Literature review	Author & year	Interview items	Questionnaire items
communication and self-belief	Jim Ludema and Amber Johnson (2019)	Q11: Do you agree that creating an open communication system is conducive to building an innovative culture?	Q11.1: Do you agree that creating an open communication system is conducive to building an innovative culture?
	Jim Dombrowski (2007) Ren (2021)	Q12: Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	Q12.1: Do you agree that supportive collaboration across teams, units, and departments promotes innovation?

3.3.2 Qualitative Analysis

Qualitative research mainly uses the form of interviews, prepares some questions, and explains these questions or explains to the interviewees with specific cases, so that the interviewees can more easily understand the interview questions and achieve the purpose of the research.

Ground on the comprehensive variable statistics in Table 3.1, 12 interview questions were designed, such as Table 3.1, to form an interview questionnaire.

The detailed format of the qualitative interview is presented in Appendix A, and the form of the narrative codes and topics of the original data interviews is shown in Appendix C.

April 10-18, 2022 is the time for interviews. 8 teachers from Baise University and 2 students from Baise University will be interviewed to talk to each respondent for 20-30 minutes. I record their answers in my notebook.

This study collected relevant interview data from interviews. Then, in the interview record, relevant sentences related to building an innovative culture in Baise University are marked, and the narrative is coded and subtotal. Some relevant data and key words of the respondents in the interview are presented in Appendix B.

The specific format of themes and narrative codes in interview data and the process of sexual narrative coding of interview data are presented in the next chapter.

Base on the narrative coding and theme, seek and statistics of key sentences and keywords, the qualitative research results of building an innovative culture of Baise University are obtained from these key sentences and keywords, and the qualitative findings are presented in Table 3.2

Table 3.2: Qualitative Discovery of Building Innovation Culture in Baise University

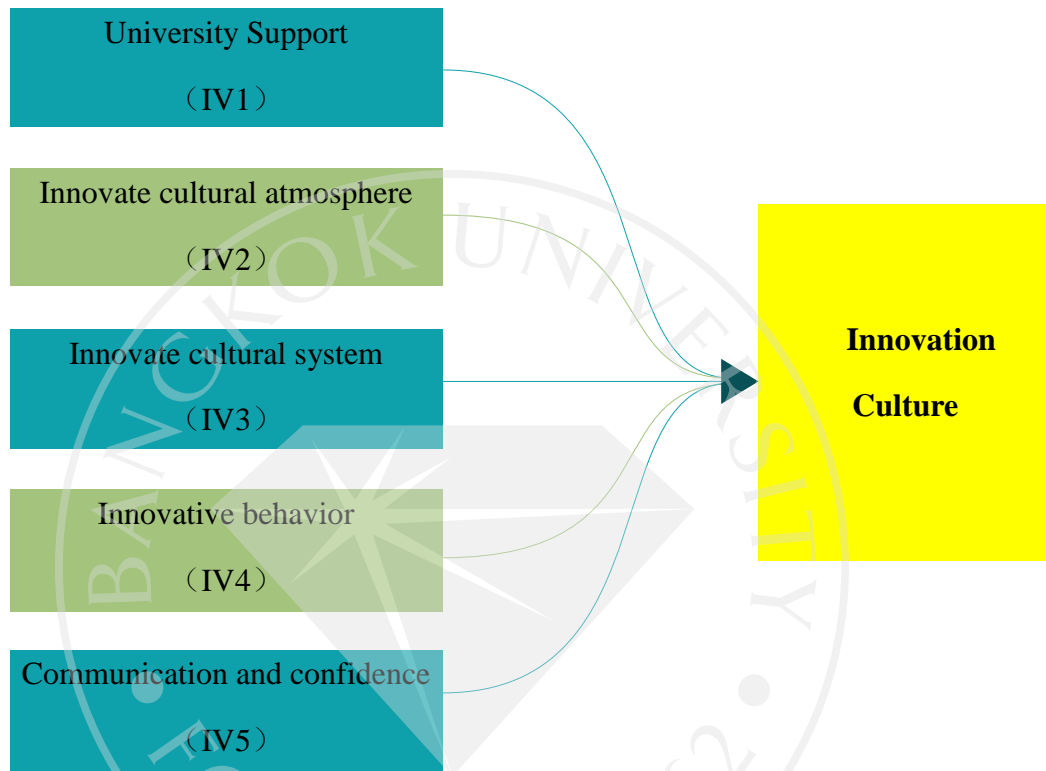
Interview questions	Qualitative Findings
Q1	1. Baise University's support is conducive to establishing an innovative culture. 2. Policy and financial support.
Q2	Baise University supports the establishment of an innovative culture.
Q3	Innovation culture will be important in the future.
Q4	The construction system of innovative culture is in place and can make the innovative culture better.
Q5	Innovative cultural atmosphere plays a role in promoting innovative culture.
Q 6	Policy and system support can better establish a culture of innovation.
Q7	Building innovation culture should strengthen the innovation atmosphere. To create more conditions to establish innovation culture.
Q8	Encouraging the creativity of teachers and students can promote innovation.
Q9	Innovation behavior promotes the construction of innovation culture.
Q10	Communication and confidence are the key to building a culture of innovation.
Q11	Creating an open communication system is conducive to building a culture of innovation.
Q12	Supporting collaboration across teams, units, and departments can promote a culture of innovation.

3.3.3 Conceptual Framework

These studies discuss the conceptual framework of the concept of the II and the results of qualitative analysis. The conceptual framework of this IS can be

summed up. There are 5 independent variables. The specific conceptual framework is shown in Figure 3.3

Figure 3.3: Conceptual Framework of the IS



3.3.4 Quantitative Analysis

This independent study used the Likert scale used in designing the questionnaire. Likert scales are widely used and have higher reliability.

The scale consists of a set of statements, each of which has five answers and corresponding scores: "Strongly Disagree - 1points", "Disagree - 2points", "Neutral - 3points", "Agree - 4 points" and "Strongly agree - 5 points". The total score obtained for each respondent needs to be calculated, which can indicate the strength of the respondent's attitude or the different status of the respondent on this scale. A template for the Likert scale is shown in Figure 3.4

Figure 3.4: Five Point Likert Scale

Likert Scale

5 Point Likert Scale					
Numbering	1	2	3	4	5
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I like Stock Market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like Stocks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I Like Money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I Like Return	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total	4	8	12	16	20

Source: *Five point Likert Scale*. (2021). Retrieved from <https://wiki.mbalib.com/wiki/likert-scale/>.

This independent study used independent variables identified from qualitative analysis to design the questionnaires in this independent study. According to the independent variables in Figure 3.4, the questionnaire is mainly composed of socio-demographic data and a rating scale for building innovative culture.

See Table 3.3 for a sample questionnaire on how to build an innovative culture in Baise University. See Appendix D for the detailed format of the questionnaire on how to build an innovative culture in Baise University.

Table 3.3: How to Build Innovation Cultural in Baise University Questionnaire

Item	Research Questions	1.Strongly disagreed 2.Disagreed 3.Neutral 4.Agreed 5.Strongly agreed				
		1	2	3	4	5
1	Whether Baise University offers a course on innovation?					
2	Does Baise University support innovation?					
3	Do you think an innovative culture is good for Baise University?					
4	Do you think Baise University strongly supports the construction of innovative culture?					
5	Do you think the innovation culture is important in the future?					
6	Do you think building an innovation platform is useful for the construction of innovation culture of Baise University?					
7	Do you think creating R & D systems is important for a culture of innovation?					
8	Do you think it is important to create innovation knowledge database for innovation culture?					

3.4 Statistical Data Analysis

3.4.1 Sampling technique

This IS uses a sample survey method. Select some individuals or units as samples from the population of the surveyed subjects, and infer the overall situation through the investigation and research of the samples. Sampling survey is generally a standardized and structured social survey, which has the functions of quantitative research and comprehensive qualitative research. Therefore, sampling survey is a main survey method in modern social survey. The subjects of the sample survey generally need to be determined by random sampling. Since the representativeness of random samples is less affected by the subjective factors of the samplers, all random sampling methods can ensure their representativeness. Therefore, the validity and reliability of sample surveys first depend on scientific sampling methods. According to the specific requirements of the survey task, determine the population range, that is, the sampling range.

3.4.2 Sampling

1) Qualitative Research Sampling

The qualitative research Sampling are mainly obtained through interviews, and the interview objects are 8 teachers and 2 students of Baise University.

2) Quantitative Research Sampling

In order to collect more sample data for the questionnaire, I made and published an online Chinese-English bilingual questionnaire on the free online survey website provided by the "WenJuanxing" company, and provided it to the respondents online to participate in the questionnaire. This way each respondent has an equal opportunity to participate. The online survey questionnaire link is for

Data were collected through web surveys from 10 May 2022 to 12 May 2022, and a total of 212 valid questionnaire samples were collected.

3.4.3 Research Tools

In this independent study, only quantitative research was applied to statistical analysis.

Effectiveness and quality of tools

A total of 13 projects were developed in this independent research survey (Experts suggest to remove question 3, with 12 items left) and the language was

revised by 4 experts respectively, and the content validity (IOC) was scored 1 point and 0 point. Over 75% of the items are acceptable survey items.

3.4.4 Statistic Application

In this independent study, only quantitative research was applied to statistical analysis. Mainly use basic information frequency, descriptive analysis, reliability analysis, validity Analysis, correlation analysis and regression analysis.

The questionnaire data of this independent study were mainly analyzed by SPSS.

SPSS is a powerful program mainly used for statistics and analysis of sampled data. The data of this independent study is mainly used SPSS for statistics and analysis, and some corresponding results and related conclusions are drawn through statistics and analysis.

3.5 Summary

In the research process, the most important and critical task is how to select and determine the independent variables, dependent variables and evaluation indicators of the research.

The evaluation system of this independent study is based on the basic principles of objectivity and practicality. Through literature research and interviews, the independent variables and evaluation indicators related to the construction of innovation culture of Baise University were found. Through a thorough analysis of the literature, reasonable independent variables and evaluation indicators were constructed to provide data support for the design of the conceptual framework and questionnaire.

CHAPTER 4 DATA ANALYSIS

4.1 Narrative Coding and Themes Extracted from Interviews

Based on the classification and analysis of data from qualitative interviews, the conclusion that Baise University builds innovative culture is drawn. They are consistent with the concept and conclusion of Baise University building innovation culture explained in chapter 2.

4.2 Basic Information Frequency

This study conducts frequency statistics on gender, age, identity, years of service, etc. in personal information, and each option accounts for the percentage of the total number of people. 52.83% of the sample is "female". And the proportion of male sample is 47.17%. In terms of age, there are relatively more "under 30 years old" in the sample, with a proportion of 34.91%. In terms of identity, the highest proportion of "teacher" is 82.08%. From the perspective of service years, there are relatively many "1-3 years" in the sample, with a proportion of 41.51%. And the proportion of the 3-5 year sample is 36.32%.As shown in Table 4.1.

Table 4.1: Basic Information Frequency Number Analysis Results

Designation	Option	Frequency	Percentage (%)	Cumulative Percentage of (%)
Gender	Male	100	47.170	47.170
	Female	112	52.830	100.000
Age	Under 30 years old	74	34.906	34.906
	31-40 years old	60	28.302	63.208
	41-50 years old	53	25.000	88.208
	51-60 years old	25	11.792	100.000

(Continued)

Table 4.1 (Continued): Basic Information Frequency Number Analysis Results

Designation	Option	Frequency	Percentage (%)	Cumulative Percentage of (%)
Identity	Students	38	17.925	17.925
	Teachers	174	82.075	100.000
Seniority	Less than 1 year	8	3.774	3.774
	More than 1 year to 3 years	88	41.509	45.283
	More than 3 years to 5 years	77	36.321	81.604
	More than 5 years to 10 years	20	9.434	91.038
	More than 10 years	19	8.962	100.000
	Total		212	100.0

4.3 Descriptive Analysis

Descriptive analysis is mainly to analyze the collected data and reflect various quantitative characteristics of objective phenomena. In this study, a descriptive analysis was performed on the five independent variables: University support, Innovate cultural atmosphere, Innovate cultural system, Innovative behavior, and Communication and confidence. The analysis results are shown in Table 4.2.

Table 4.2: Description of the Statistics

Variable	Item	Samples	Min.	Max.	Mean	S.D.	Skewness	Kurtosis
University support	Q1	212	1.00	5.00	3.934	1.014	-0.857	0.361
	Q2	212	1.00	5.00	3.849	1.038	-0.696	0.065
	Q3	212	1.00	5.00	3.882	1.106	-0.995	0.434
	Q4	212	1.00	5.00	3.967	0.951	-0.501	-0.622
	Q5	212	1.00	5.00	3.873	1.070	-1.009	0.773
Innovate cultural atmosphere	Q6	212	1.00	5.00	3.774	1.104	-0.650	-0.526
	Q7	212	1.00	5.00	3.646	1.205	-0.373	-1.207
	Q8	212	1.00	5.00	3.533	1.256	-0.612	-0.596
	Q9	212	1.00	5.00	3.703	1.209	-0.728	-0.415
	Q10	212	1.00	5.00	3.684	0.997	-0.692	0.536
Innovate cultural system	Q11	212	1.00	5.00	3.783	0.903	-0.376	-0.059
	Q12	212	1.00	5.00	3.859	0.918	-0.717	0.660
	Q13	212	1.00	5.00	3.802	0.912	-0.692	0.806
	Q14	212	2.00	5.00	4.000	0.722	-0.153	-0.639
Innovative behavior	Q15	212	1.00	5.00	3.538	0.985	-0.196	-0.611
	Q16	212	1.00	5.00	3.651	1.062	-0.868	0.581
	Q17	212	1.00	5.00	3.675	1.115	-0.797	-0.112
Communication and confidence	Q18	212	1.00	5.00	3.580	0.982	-0.620	0.563
	Q19	212	1.00	5.00	3.547	1.018	-0.388	0.055
	Q20	212	1.00	5.00	3.533	1.124	-0.436	-0.299
	Q21	212	1.00	5.00	3.670	1.137	-0.748	0.079

According to Table 4.2, perform statistical analysis on the data contained in the questionnaire, including the number of cases, maximum value, minimum value, standard deviation, average value, kurtosis and skewness, etc., mainly to verify the

results obtained through the survey. Whether the data follow a normal distribution. Subsequent analysis is affected by whether the data follow a normal distribution. Kline (1998) believes that when the absolute value of skewness is less than 3 and the absolute value of kurtosis is less than 10, it means that the sample basically obeys the normal distribution. From the table, we can see that the absolute value of kurtosis of each item is less than 10, and the absolute value of skewness is less than 3. Both kurtosis and skewness conform to the normal distribution conditions, indicating that each item can obey the normal distribution. The data obtained from the questionnaire can be used directly for subsequent statistical analysis, such as reliability and validity.

4.4 Reliability Analysis

The purpose of reliability analysis is to ensure the validity of model fitting evaluation and hypothesis testing. This independent study used Cronbach's Alpha reliability coefficient to test the consistency of the questionnaire research variables for each measurement item. DeVellis (1991) believed that Cronbach's alpha coefficient must be greater than 0.7 to have good reliability. Generally speaking, most aspects of improving reliability are variable reductions and are reduced according to two conditions: 1) If the correlation between the deleted item and the total score of other items (corrected item-total correlation, CITC) was lower than 0.5, the item was deleted. 2) If the Cronbach's alpha coefficient increases after deleting the item, delete the item. This study uses the above two points as the basis of the purification project.

Table 4.3: Cronbach Reliability Analysis

Variable	Item	Correction item total correlation(CITC)	The deleted α coefficient of the term	Cronbach α coefficient
University support	Q1	0.716	0.854	0.880
	Q2	0.783	0.837	
	Q3	0.683	0.862	

(Continued)

Table 4.3 (Continued): Cronbach Reliability Analysis

Variable	Item	Correction item total correlation(CITC)	The deleted α coefficient of the term	Cronbach α coefficient
	Q4	0.699	0.858	
	Q5	0.692	0.860	
Innovate	Q6	0.675	0.876	
cultural	Q7	0.795	0.848	
atmosphere	Q8	0.726	0.866	0.888
	Q9	0.701	0.871	
	Q10	0.765	0.859	
Innovate	Q11	0.388	0.713	
cultural system	Q12	0.381	0.719	0.710
	Q13	0.620	0.564	
	Q14	0.647	0.575	
Innovative	Q15	0.732	0.817	
behavior	Q16	0.740	0.807	0.863
	Q17	0.753	0.797	
Communication	Q18	0.716	0.852	
and confidence	Q19	0.746	0.839	0.877
	Q20	0.762	0.833	
	Q21	0.727	0.847	

As shown in Table 4.3 the reliability coefficient value of the innovation culture system is 0.710, which is greater than 0.7, indicating that the reliability of the research data is very good. For "alpha coefficient of deleted item", the reliability coefficient does not increase significantly after any item is deleted, i.e. the item should not be deleted. For "CITC value", the CITC value corresponding to Q11 is less than 0.5, and the CITC value corresponding to Q12 is less than 0.5. These two items

can be deleted, and the reliability coefficient values of other items are all greater than 0.7. For the "CITC value", the CITC values of the analysis items are all greater than 0.5, indicating that there is a good correlation between the analysis items and that the reliability level is good. In summary, the data reliability of the remaining projects is high and can be used for further analysis.

4.5 Validity Analysis

One of the components of empirical analysis is validity analysis. Many times, researchers do not have enough resources or time to develop new measurement tools. All used existing measurement tools like questionnaires.

Questionnaires are usually measured by construct validity and content validity. Among them, content validity refers to the logical consistency and applicability of the item and the measured variable (Lu, 2006). The questionnaires used in this study were constructed based on literature reviews to show that relationships or associations between variables were constructed. According to the results of the previous investigation, the wording and expression of the items were further revised and improved, and it can be considered that the scale has content validity that meets the requirements. The focus of this study is to investigate construct validity, which refers to the ability of an item to measure the variable being measured (Cai, Hughes, & Yin, 2014). This study used the collected data to perform exploratory factor analysis (exploratory factor analysis, EFA) test to verify the construct validity of the scale.

Generally, In the process of exploratory factor analysis, two conditions need to be met for the feasibility test of factor analysis: 1. $KMO > 0.7$; 2. Bartlett's sphericity test is significant ($Sig. < 0.05$).

Exploratory factor analysis was performed using SPSS 22.0 to perform KMO and Bartlett's sphericity test on the scale. The results are shown in Table 4.4.

Table 4.4: Test of KMO and Bartlett

KMO price		0.880
The Bartlett Sphelicity Test	Approximate Calvarus	2274.332
	<i>df</i>	171
	<i>p</i> value	0.000

When factor analysis is used in information enrichment research, the first thing to do is to analyze whether the research data is suitable for factor analysis. It can be seen from Table 4.5.1 that KMO is 0.880, which is greater than 0.6, which can meet the premise requirements of factor analysis. Means that the data can be used for factor analysis studies. Moreover, the data passed the Bartlett sphericity test ($p < 0.05$), indicating that the research data are also suitable for factor analysis.

Table 4.5: Commuality

Item	Initial	Extract
Q1	1.000	0.688
Q2	1.000	0.758
Q3	1.000	0.663
Q4	1.000	0.669
Q5	1.000	0.660
Q6	1.000	0.630
Q7	1.000	0.794
Q8	1.000	0.736
Q9	1.000	0.663

(Continued)

Table 4.5 (Continued): Communalities

Item	Initial	Extract
Q10	1.000	0.745
Q13	1.000	0.834
Q14	1.000	0.834
Q15	1.000	0.770
Q16	1.000	0.786
Q17	1.000	0.801
Q18	1.000	0.709
Q19	1.000	0.738
Q20	1.000	0.766
Q21	1.000	0.733

The common factor variance in Table 4.5 reflects the common variable degree of the factor, the degree of each variable depends on the extracted common factor. As shown in the analysis of SPSS 24 software in the table above, the extraction degree of almost all variables is above 60%, it shows that the extracted information contains most of the information of the original variables, and the factor extraction effect is better.

Table 4.6: Total Variance Interpretation

Ingredient	Initial eigenvalue			Extract the sum of load squares			Square and sum of the rotating load		
	Total	Variance percentage	Accumulate %	Total	Variance percentage	Accumulate %	Total	Variance percentage	Accumulate %
1	7.120	37.473	37.473	7.120	37.473	37.473	3.474	18.287	18.287
2	2.171	11.426	48.899	2.171	11.426	48.899	3.437	18.092	36.379
3	1.919	10.101	59.000	1.919	10.101	59.000	2.996	15.766	52.145
4	1.567	8.248	67.248	1.567	8.248	67.248	2.380	12.525	64.670
5	1.201	6.319	73.567	1.201	6.319	73.567	1.690	8.897	73.567
6	0.642	3.379	76.946						
7	0.580	3.054	80.000						
8	0.474	2.494	82.494						
9	0.418	2.202	84.696						
10	0.396	2.082	86.778						
11	0.357	1.880	88.657						

(Continued)

Table 4.6 (Continued): Total Variance Interpretation

Ingredient	Initial eigenvalue			Extract the sum of load squares			Square and sum of the rotating load		
	Total	Variance percentage	Accumulate %	Total	Variance percentage	Accumulate %	Total	Variance percentage	Accumulate %
12	0.333	1.752	90.409						
13	0.307	1.617	92.026						
14	0.301	1.583	93.609						
15	0.292	1.538	95.147						
16	0.262	1.379	96.527						
17	0.251	1.320	97.847						
18	0.224	1.180	99.027						
19	0.185	0.973	100.000						
Extraction method: principal component analysis method.									

Table 4.6 For the factor extraction and factor extraction information analysis, from the above table, a total of 5 factors are extracted from the factor analysis, the characteristic root value is greater than 1, the variance interpretation rate of the five factors is 18.287%, 18.092%, 15.766%, 12.525%, 8.897%, and the cumulative variance interpretation rate after rotation is 73.567%.

Figure 4.1: Master Factor Gravel Map

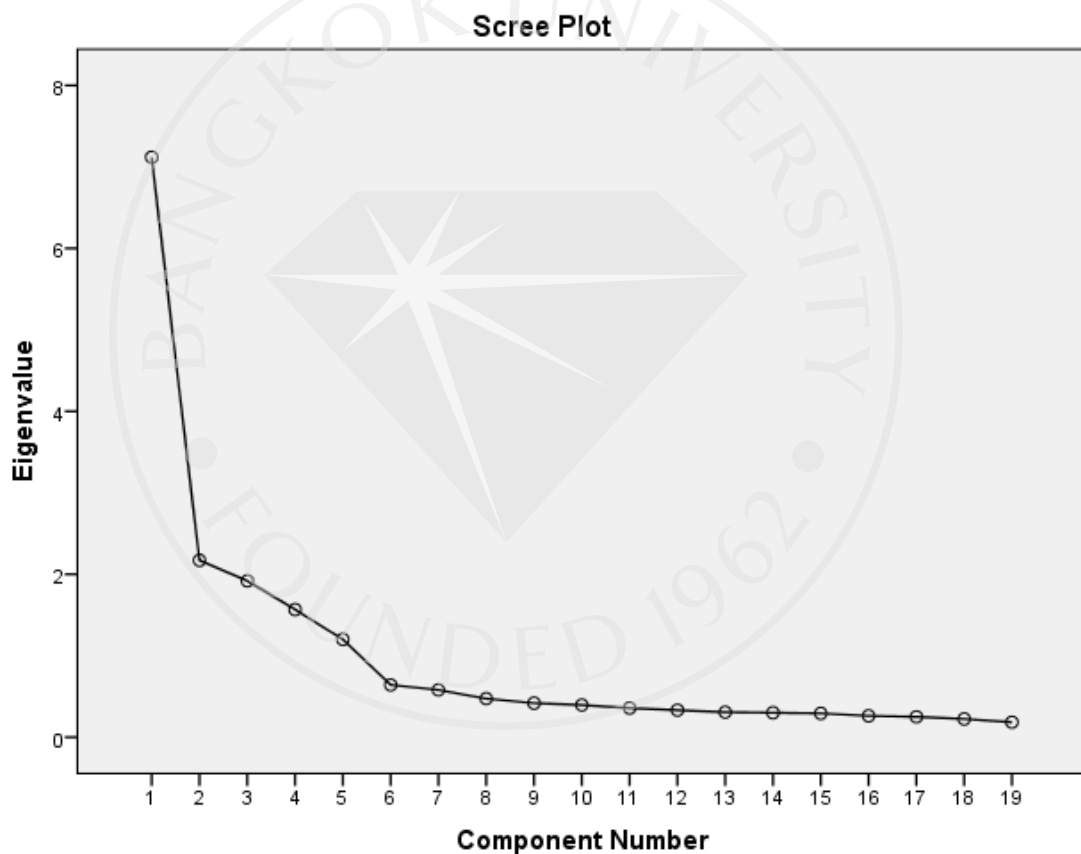


Figure 4.1 Main factor gravel diagram, which can intuitively view the number of factors to be drawn from the data of the "total" column under the "Initial Eigenvalues" column in the diagram, and arrange the eigenvalues in descending order. In fact, it is a principal component scatter map arranged according to the size of the characteristic roots. According to the figure, the characteristic root value after the

fifth factor in the figure slows down, and the eigenvalue is less than 1, so it is appropriate to extract the first five master factors. Starting from the fifth principal component, the characteristic root is very low. This figure shows from another side that only five principal components need to extract the principal components.

Table 4.7: Composition Matrix after the Rotation

Variable	Item	Ingredient				
		1	2	3	4	5
University support	Q1	0.092	0.790	0.153	0.145	0.103
	Q2	0.134	0.814	0.179	0.181	0.116
	Q3	0.122	0.790	0.064	0.079	0.117
	Q4	0.165	0.736	0.143	0.281	0.001
	Q5	0.214	0.765	0.117	0.083	0.088
Innovate cultural atmosphere	Q6	0.691	0.254	0.236	0.127	0.127
	Q7	0.851	0.091	0.109	0.187	0.116
	Q8	0.828	0.179	0.097	0.031	-0.087
	Q9	0.762	0.145	0.217	0.079	0.089
	Q10	0.833	0.092	0.114	0.155	0.079
Innovate cultural system	Q13	0.087	0.133	0.165	0.178	0.866
	Q14	0.108	0.176	0.143	0.131	0.868
Innovative behavior	Q15	0.158	0.195	0.087	0.824	0.143
	Q16	0.162	0.197	0.106	0.839	0.074
	Q17	0.139	0.216	0.206	0.818	0.152

(Continued)

Table 4.7 (Continued): Composition Matrix after the Rotation

Variable	Item	Ingredient				
		1	2	3	4	5
Communication and confidence	Q18	0.162	0.154	0.799	0.113	0.091
	Q19	0.161	0.156	0.824	0.066	0.068
	Q20	0.180	0.200	0.815	0.156	0.075
	Q21	0.150	0.067	0.822	0.093	0.149

As shown in Table 4.5.5. In this study, the maximum variance rotation method (varimax) was used for rotation to find the correspondence between factors and research items. The table shows the information extraction of each factor of the research project, and the corresponding relationship between each factor and the research project. It can be seen from this table: after ensuring that the factor can extract most of the information of the research project, when the absolute value of the factor loading coefficient is greater than 0, the corresponding relationship between the factor and the research project is analyzed, indicating that the project has a corresponding relationship with the factor. The coefficient load of each measurement item is greater than 0.5, and the cross load is less than 0.5. Each item belongs to the corresponding factor. Therefore, the scale has good construct validity.

4.6 Correlation Analysis

Determine the structure of the corresponding questions and dimensions through the results of the previous validity analysis and reliability analysis, and take the calculated average score of each dimension question as the score of the dimension, and then carry out the correlation analysis. Correlation analysis is mainly to study the correlation between variables. The value of the correlation coefficient ranges between -1 and 1. The larger the absolute value, the closer the correlation between variables.

Qiu (2006) proposed a detailed classification method of correlation coefficient, $|r|=1$, complete correlation; $|r| \leq 0.70 < 0.99$, highly correlated; $0.40 \leq |r| < 0.69$, moderate correlation; $0.10 \leq |r| < 0.39$, low correlation; $|r| < 0.10$, weak or no correlation. The analysis results are shown in Table 4.8.



Table 4.8: Pearson Related

	Verage value	Standard deviation	Gender	Age	Identity	Seniority	University support	Innovate cultural atmosphere	Innovate cultural system	Innovative behavior	Communication and confidence	Innovation culture
Gender	0.528	0.500	1									
Age	2.137	1.028	0.015	1								
Identity	0.821	0.384	0.100	0.482 ***	1							
Seniority	2.783	0.988	0.089	0.547 ***	0.334 ***	1						
University support	3.901	0.852	0.039	-0.096	0.041	0.112	1					
Innovate cultural atmosphere	3.668	0.962	0.047	-0.002	-0.028	0.136*	0.402***	1				

(Continued)

Table 4.8 (Continued): Pearson Related

	Verage value	Standard deviation	Gender	Age	Identity	Seniority	University support	Innovate cultural atmosphere	Innovate cultural system	Innovative behavior	Communication and confidence	Innovation culture
Innovate cultural system	3.901	0.749	0.052	-0.044	-0.021	0.048	0.333***	0.255***	1			
Innovative behavior	3.621	0.935	0.092	-0.125	-0.036	0.006	0.456***	0.372***	0.372***	1		
Communication and confidence	3.583	0.913	0.192**	-0.041	-0.008	0.008	0.378***	0.413***	0.337***	0.350***	1	
Innovation culture	3.835	1.249	0.155*	-0.030	0.185**	0.101	0.532***	0.514***	0.441***	0.470***	0.491***	1

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

As can be seen from Table 4.8 Innovation culture and gender, identity, university support, innovation culture atmosphere, innovation culture system, innovation behavior, communication and confidence all showed significant significance, and the correlation coefficient values were 0.155, 0.185, 0.532, 0.514, 0.441 respectively , 0.470, 0.491, all of which are greater than 0, which means that there is a positive correlation between innovation culture and 7 items including gender, identity, university support, innovation culture atmosphere, innovation culture system, innovation behavior, communication and confidence. At the same time, there is no significant relationship between innovation culture, age, and years of service, and the correlation coefficient value is close to 0, indicating that there is no correlation between innovation culture, age, and years of service.

4.7 Regression Analysis

Because correlation analysis cannot describe the interaction between influencing factors, but simply describes the effect between two variables, we need to use an analysis method that can exclude the interaction between independent variables. The method is multiple linear regression analysis. Using multiple linear regression analysis, the relationship between the independent variable and the dependent variable can be obtained. The analysis results are presented in Table 4.9.

Table 4.9: Regression Analysis

	Innovation culture			
	model 1		model 2	
	β	t	β	t
Gender	0.124	1.839	0.057	1.147
Age	-0.216*	-2.506	-0.087	-1.364

(Continued)

Table 4.9 (Continued): Regression Analysis

	Innovation culture			
	model 1		model 2	
	β	t	β	t
Identity	0.233**	3.035	0.231***	4.155
Seniority	0.131	1.631	-0.004	-0.071
University support			0.216***	3.674
Innovate cultural atmosphere			0.259***	4.585
Innovate cultural system			0.191***	3.555
Innovative behavior			0.133*	2.305
Communication and confidence			0.179**	3.130
R^2	0.082		0.537	
Adjust R^2	0.064		0.516	
F value	4.626**		25.993***	
R^2			0.455	
Fvalue			39.632***	

From Table 4.9, this hierarchical regression analysis involves two models. The independent variable in Model 1 is gender, age, identity, length of service. Model 2 adds university support on model 1, innovation cultural atmosphere, innovation cultural system, innovation behavior, communication and confidence. The dependent variables of the model are innovation culture.

Model 1 shows that identity has a significant positive impact on innovation culture. And age will have a significant negative impact on innovation

culture. But gender, years of service did not have an impact on innovation culture.

Model 2 added university support, innovative cultural atmosphere, innovative cultural system, innovative behavior, communication and confidence on the basis of model 1, and the F value changed significantly ($p < 0.05$), meaning that university support, innovative cultural atmosphere, The innovation culture system, innovation behavior, communication and confidence have explanatory significance to the model after the addition. In addition, the R-square value increased from 0.082 to 0.537, which means that university support, innovative cultural atmosphere, innovative cultural system, innovative behavior, communication and confidence can explain 45.5% of innovative culture.

Specifically, the regression coefficient value of university support is 0.216, and it is significant ($p < 0.001$), which means that university support will have a significant positive impact on innovation culture.

The regression coefficient value of innovation culture atmosphere is 0.259, and it is significant (< 0.001), which means that innovation culture atmosphere will have a significant positive impact on innovation culture.

The regression coefficient value of the innovation culture system is 0.191, and it is significant ($p < 0.001$), which means that the innovation culture system will have a significant positive impact on the innovation culture.

The regression coefficient value of innovation behavior is 0.133, and it is significant ($p < 0.05$), which means that innovation behavior will have a significant positive impact on innovation culture.

The regression coefficient value of communication and confidence is 0.179, and it is significant ($p < 0.01$), which means that communication and confidence will have a significant positive impact on innovation culture.

CHAPTER 5

CONCLUSION AND DISCUSSION

5.1 Discussion and Interpretation of Findings

Through the coding and synthesis of qualitative interview content 3.1, it can be found that the construction of innovative culture in Baise University can be carried out from five aspects: university support, innovate cultural atmosphere, innovative cultural system, innovative behavior, communication and confidence. To do better, enhance the innovation ability of teachers and students of Baise University, and improve the competitiveness of Baise University.

5.1.1 Baise University's support for the construction of an innovative culture can promote a better construction of an innovative culture in Baise University. This finding is consistent with previous conclusions drawn from a case study on the experience of RMIT University in Australia. Innovation is supported by a learning culture, openness culture, risk-taking culture, communication and couple back, a culture that is critical to innovation (Kenney, 2002). To be sure, a supportive innovation culture is one of the strategic sources of support for innovation. Such as sharing knowledge and teamwork. It also includes incentives or incentives for employees to engage in innovation-related practices or to participate in relevant collaborations with other institutions to enhance innovation skills (Brennan et al., 2014). It can also provide relevant teams or resources for carrying out innovation-related practices (Kenney, 2003). For example, The Shanghai Knowledge and Innovation Community (KIC) have grown rapidly since 2003 and have grown stronger under the strong leadership and support of the local government.

5.1.2 Creating innovate cultural atmosphere can promote the construction of an innovative culture in Baise University. Creating innovate cultural atmosphere can stimulate the innovative passion and vitality of Baise University teachers and students, and improve their innovative awareness and innovative thinking. This finding is consistent with Bharadwaj and Menon (2000) believed that the innovation climate can predict the innovation behavior and innovation performance of the work team. There is always a positive correlation between individual organizational innovation mechanism support and creativity, performance and innovative behavior.

5.1.3 The establishment of an innovative culture system is the key to establishing an innovative culture. The formation of a series of perfect innovative cultural systems plays a very important role in the construction of an innovative culture in Baise University. Use the system to promote the innovation culture construction of Baise University, and build a high-quality innovation culture with effective guarantee and in place performance management. This finding in (Roffeei, Yusop, & Kamarulzaman, 2018) argues that the key to an innovation culture is to institutionalize innovation, consistent with a desire for continuous improvement.

5.1.4 Cultivate the innovative behavior of Baise University teachers and students, which can improve the innovation ability of Baise University teachers and students, and promote the building of an innovative culture. This finding is consistent with Biao's (2018) belief that innovation culture is the innovative spirit in culture, which is relatively independent and is conducive to natural creation, the formation of innovative thinking and the formation of innovative behaviors, and that supporting innovative behaviors can promote the construction of innovative culture.

5.1.5 Communication enables teachers and students of Baise University to share innovative knowledge, which increases the creation and exchange of knowledge. Self-confidence can make Baise University teachers and students dare to innovate and are willing to strengthen cooperation. Therefore, communication and confidence can help Baise University better build innovation culture. This finding is consistent with what Oldham and Cummings (1996) believes that some leaders can create a creative work environment because they can provide support for employees' innovation, and this support is continuous, rather than giving employees more constraints. Employees often communicate effectively and openly with leaders, so that they can get more support from leaders, which can not only promote creativity in the workplace, but also increase the number of departments within the company, between employers and employees, and between employees and leaders and consistent with what Tierney et al. (1999) think knowledge exchange and knowledge creation between them, so as to continuously improve the integrity and effectiveness of knowledge management. Also consistent with Koskinen, et al. (2003) believes that if there are members of different backgrounds and different occupations in the team, then the team's achievements in innovation will be more prominent. In addition, if there are members in the team who

not only have different knowledge backgrounds and rich professional experience, but also work very conscientiously and confidently, other members are more willing to cooperate with such colleagues.

This qualitative finding has been confirmed to be statistically significant by 212 respondents to the questionnaire.

5.2 Research Implication

In order to strengthen the construction of innovation culture in Baise University, this study carried out an online questionnaire survey on the basis of interviews with representative research objects, through an exploratory analysis of how Baise University builds an innovation culture. On this basis, corresponding countermeasures and suggestions are put forward. It provides a theoretical basis for how to build innovation culture in Baise University. This is not only of great help to improve the innovation ability of teachers and students of Baise University, but also to improve the competitiveness of Baise University.

5.3 Recommendations for Further Research

The research recommendations are as follows:

5.3.1 The leaders, teachers and students of Baise University should clearly recognize the importance of innovative culture. The culture of innovation is very important whether it is a country or a university, whether it is now or in the future. Baise University should support the construction of innovative cultural capacity. Support the building of an innovative culture through policy support, financial support and the introduction of innovative talents. Promote Baise University to build a better innovation culture and improve the innovation ability of teachers and students.

5.3.2 Baise University should create an innovative cultural atmosphere. Because creating an innovative atmosphere can stimulate the innovation passion and vitality of Baise University teachers and students, and improve the innovation awareness and innovative thinking of Baise University teachers and students. Baise University can create a good innovative cultural atmosphere by creating an innovation platform, creating a research and development system, and creating an

innovative knowledge database.

5.3.3 Baise University should establish an innovative cultural system and form a series of perfect innovative cultural systems. It is possible to promote the construction of innovation culture by formulating relevant policies and systems. It is also possible to use effective incentive policies to help Baise University build an innovation culture, use systems to promote the construction of Baise University's innovation culture, and build high-quality innovation with effective guarantees and in-place performance management culture.

5.3.4 Baise University must cultivate the innovative behavior of teachers and students, so as to improve the innovation ability of teachers and students of Baise University and promote the establishment of a new culture in Baise University. By holding innovation forums, teachers and students can learn about the latest innovations. Through the active participation of management in innovation, teachers and students can realize the importance of innovation. We should also pay attention to the suggestions of teachers and students, and encourage teachers and students to participate in innovation.

5.3.5 Baise University should create conditions for teachers and students to communicate and have confidence, so that teachers and students of Baise University can share innovative knowledge and increase the creation and exchange of knowledge. Let the teachers and students of Baise University dare to innovate and be willing to strengthen cooperation. An open communication system, such as an innovation cloud system, can be established. There is also a need to encourage supportive collaboration across teams, units and departments to enhance teamwork. Through these, we can help Baise University better build innovation culture.

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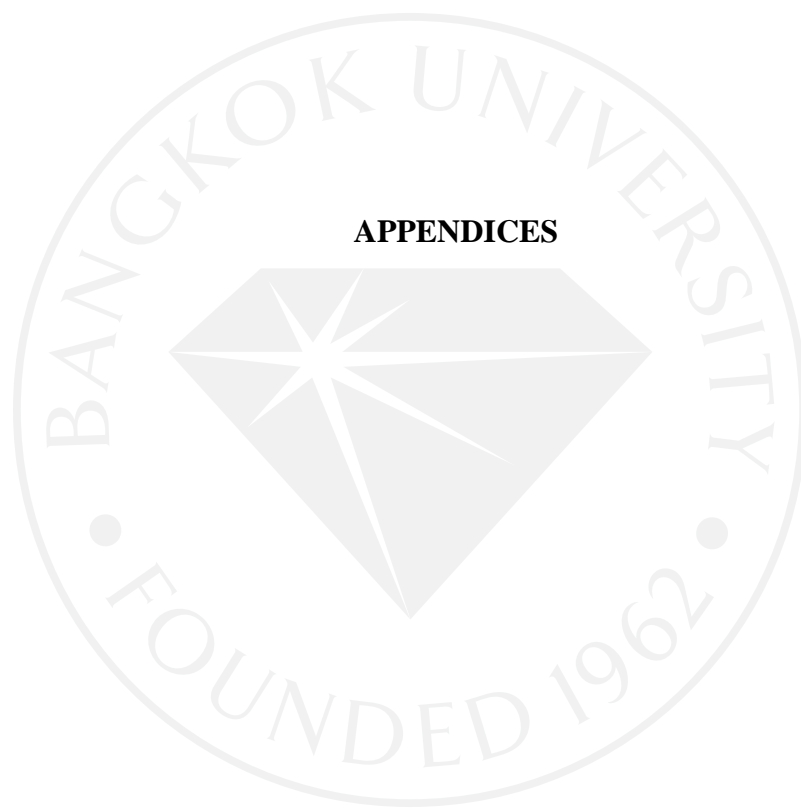
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Appendix A

Qualitative Interview Outline



**Master in
Business Innovation**



Hi. I'm investigating how to build innovation culture in Baise University.

The purpose is to understand the innovative cultural atmosphere and the development prospects of innovative culture in Baise University. It provides a theoretical reference for the innovation culture construction of Baise University. Your answers will be kept completely confidential. You may need 40 minutes to complete this interview, please think carefully before answering, it is very important to me. Thanks for your cooperation.

Name:

Gender:

Email:

Date (DD/MM/YYYY):

1. How long have you been working at Baise University?
2. How satisfied are you with the current culture of innovation at Baise University?
3. Do you think Baise University will support to build innovation cultural?
4. Do you think innovation cultural will be important in the future?
5. How satisfied are you with the current culture atmosphere of innovation at Baise University?
6. What kinds of system of innovation cultural building which already in place?
7. Does Baise University have policies and systems to support the creation of an innovative culture?
8. What do you think that Baise University needs to do about in building an innovation culture?
9. Do you think encouraging teachers and students to be creative can build innovation cultural?

10. Do you think innovation behavior is promoting the construction of innovation culture?

11. Do you think that communication and self-belief are the key to building a culture of innovation?

12. Do you agree that creating an open communication system is conducive to building an innovative culture?

13. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?



Appendix B

Respondents' Raw Recorded Data

	Age	Sex	Occupation	Education
Respondent 1	36 years old	Female	lecturer	Master
Respondent 2	26 years old	Male	assistant	bachelor
Respondent 3	49 years old	Male	professor	bachelor
Respondent 4	34 years old	Female	associate professor	doctorate
Respondent 5	41 years old	Male	lecturer	doctorate
Respondent 6	48 years old	Male	professor,	doctorate
Respondent 7	40 years old	Female	professor	doctorate
Respondent 8	37 years old	Male	associate professor	Master
Respondent 9	20 years old	Male	-	junior student
Respondent 10	19 years old	Female	-	sophomore student

Narrative Coding and Theme from Raw Data Interview

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
How long have you been working at Baise University?						
8 years	3 years	25 years	8 years	12 years	14 years	14 years
1. How satisfied are you with the current culture of innovation at Baise university?						
1.1.1 Yes, I am satisfied with the current innovation culture. Baise University has a great support for building an innovative culture in terms of policy and capital, but there is still a gap with some high-level universities.	2.1.1 Yes, I am quite satisfied with the current culture of innovation, and I think I can do better.	3.1.1 Yes, I am satisfied with the current innovation culture. I have been accompanied by the development of innovation culture of Baise University, from the beginning to now, and have done well. I believe that on this basis, the innovation culture construction of Baise University will be better.	4.1.1 Yes, I am quite satisfied with the current innovation culture. I have been very satisfied since I just entered the school. In the past eight years, I also think the innovation culture of Baise University is getting better and better, and the innovation ability of teachers and students is getting stronger and stronger.	5.1.1 Yes, I am quite satisfied with the current innovation culture. I think the teachers and students of Baise University have good innovation behavior and their innovation ability is relatively strong. The school has great support for the construction of innovation culture in terms of policy and funds.	6.1.1 Yes, I am quite satisfied with the current innovation culture, but as the head of the department, I also participated in the construction of school innovation culture, and assisted the school to formulate incentive policies and formulate the development plan of innovative culture construction. At present, I am quite satisfied.	7.1.1 Yes, I am quite satisfied with the current innovation culture. I think I support the construction of innovation culture. Whether in development planning or talent training, innovation is integrated into it. Baise University has also incorporated innovative culture construction into the management of the university. The innovation ability of the teachers and students of Baise University has been improved. The school has also increased its policy and financial support for the construction of an innovative culture.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
How long have you been working at Baise University?						
13 years	3 years	2 years	-	-	-	-
1. How satisfied are you with the current culture of innovation at Baise university?						
8.1.1 Yes, I am quite satisfied with the current innovation culture, I think I support the construction of innovation culture, if there is a writing system, system is in place. School leaders also attach importance to the construction of innovative culture. Teachers and students also take an active part in the innovation. Baise University has also incorporated innovative culture construction into the management of the university. The innovation ability of the teachers and students of Baise University has been improved.	9.1.1 Yes, I am quite satisfied with the current innovation culture, such as innovation courses, innovation competitions, and innovation resource pool. Some campus landscape also has innovation elements, which I think it is very good.	10.1.1 Yes, I am more satisfied with the current innovation culture, such as innovation curriculum is very important to us. I have also participated in the school innovation competition held once, and the results are quite good. Some campus landscapes also have innovative elements, which I think is very good.	Policy and Financial Support (R1, R6, R8) Innovative Behavior (R5); Innovation Capacity (R4, R5; R7, R8); Development Plan (R6, R7); Management (R8) Innovation Curriculum, Innovation Competition, Innovation Resources (R9, R10) Campus landscape (R9, R10); still do better (R1, R2, R3, R4, R7, R8)	Policy and financial support; innovation ability; and can do better	Policy and financial support	School support is conducive to building innovation culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
2. Do you think Baise University will support to build innovation cultural?						
1.2.1 Yes, very supportive, and very necessary, very urgent.	2.2.1 Yes, very supportive, and also did a lot of effort, such as the investment of money.	3.2.1 Yes, I have been very supportive and have made a lot of efforts, such as capital investment, establishing a lot of incentive policies, and using many ways to build innovation culture.	4.2.1 Yes, very supportive, because the establishment of innovation culture can improve the innovation ability of teachers and students, let teachers produce more innovative achievements and projects, can improve the competitiveness of Baise University, and promote the development of the university.	5.2.1 Yes, very supportive. The leaders of Baise University have long realized the importance of innovative culture, and they have formulated more policy systems to support it and invested comparative funds to create innovative culture, so as to improve the innovation ability of teachers and students, improve the competitiveness of Baise University and improve the efficiency of Baise University.	6.2.1 Yes, I think very supportive. I have formulated a more policy system to support and invested comparative funds to create an innovation culture, which is conducive to improving the innovation ability of teachers and students and improving the competitiveness of Baise University. Some Baise University can get more benefits.	7.2.1 Yes, very supportive, if there is a lot of policy support, investment in capital support, guide teachers and students to actively participate in innovation, improve their innovation ability. Create a lot of conditions for innovative culture construction, improve the innovation ability of teachers and students, so as to improve the competitiveness of Baise University and improve the efficiency of Baise University.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
2. Do you think Baise University will support to build innovation cultural?						
8.2.1 Yes, I think very supportive, have invested more culture of innovation, and have a lot of policy support. Create a lot of conditions for innovative culture construction, improve the innovation ability of teachers and students, so as to improve the competitiveness of Baise University and improve the efficiency of Baise University.	9.2.1 Yes, I think very supportive, and have made a lot of efforts, such as holding an innovation competition, and hearing the teacher say that I have invested a lot of money to build innovation culture.	10.2.1 Yes, very supportive, a lot of money and a lot of policies to build a culture of innovation.	Very supportive (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10); very necessary (R1); very urgent (R1); much effort (R2, R3) to improve innovation capacity of teachers and students (R4, R6, R7, r8); improve competitiveness of Baise University (R4, R5, R6, R7, r8); promote university development (R4), leadership value (R5); improve efficiency (R5, R6, R7, R8)	Very supportive; very necessary; competitive	Support	Baise University supports the establishment innovative culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
3. Do you think innovation cultural will be important in the future?						
1.3.1 Yes, I think innovation culture can promote innovation behavior and innovation ability, and innovation culture has a broad prospect in the future. It is important, both now and in the future.	2.3.1 Yes, a culture of innovation is important, either in businesses or in schools, or even for a country.	3.3.1 Yes, innovation culture, whether in enterprises or in schools, will affect its benefits. Good construction of innovation culture can improve innovation ability, and innovation ability is very important for enterprises, schools, or even a country in the future.	4.3.1 Yes, a country cannot be separated from innovation, and an enterprise cannot do without innovation. Similarly, schools also cannot be separated from innovation. Innovation culture can improve innovation ability, which is very important in the future.	5.3.1 Yes, the culture of innovation has an encouraging and guiding role in innovation, and the attitudes and values held by people in any country or region towards creativity, work and code of conduct play a key role in determining the source and form of innovation behavior. Innovation culture breeds innovation cause, and innovation culture encourages innovation cause. Innovation culture is the concentrated embodiment of a nation's creative consciousness and innovative spirit, which can provide spiritual motivation and intellectual support for the construction of an innovative country. It is important in the future.	6.3.1 Yes, only continuous innovation can survive in the fierce market competition, and the influence of innovation culture on economic growth is becoming more and more extensive and more far-reaching. Both the country, enterprises and schools need innovation, and innovation culture can enhance the innovation ability, which is very important in the future.	7.3.1 Yes, a culture of innovation helps to improve the creativity of people in a country or region. Innovation culture promotes the improvement of innovation ability. It is important in the future.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
3. Do you think innovation cultural will be important in the future?						
8.3.1 Yes, innovation culture promotes innovation ability. A culture of innovation helps to improve creativity in a country, a business and a school. It is important in the future.	9.3.1 Yes, both the country and the school are cultivating our innovation ability, and the innovation culture can promote the cultivation of the innovation ability, no matter the country or the school, the innovation culture is very important.	10.3.1 Yes, innovation culture can help teachers and students improve their innovation ability. Both the country and the school are trying to establish an innovation culture. I think innovation culture is very important both now and in the future.	Innovation culture can promote innovation behavior and innovation ability (R1, R3, R7, R8, R9, R10); innovation culture has broad prospects in the future (R1); important for enterprises, schools, and countries (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10); innovation culture is a concentrated embodiment of innovation consciousness and spirit, can provide spiritual motivation and intellectual support for the construction of innovative country (R5).	Very important	Very important	Innovation culture will be important in the future.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
4. What kinds of system of innovation cultural building which already in place?						
1.4.1 Innovative curriculum teaching system and innovative scientific research system have been in place, with a publishing system, think tank and resource database.	2.4.1 There are innovative curriculum teaching system, innovative scientific research system, and also have innovative student management system.	3.4.1 For example, there are innovative curriculum teaching system, innovative scientific research system, innovative student management system, the construction of think tank, and rich innovation resources. The university can publish journals about innovation. In many aspects, the innovation culture construction system of Baise University has been in place. In addition, in the 14th Five-Year Plan of Baise University, the construction of innovative culture is an important part of the plan.	4.4.1 Innovative courses have been included in the school teaching system, scientific and technological innovation and patent transformation have been included in the innovative scientific research system, innovative student management system, publishing system, think tank construction, and rich innovation resources.	5.4.1 Innovative curriculum teaching system, scientific and technological innovation, patent transformation innovation scientific research system, as well as innovative student management system, built a publishing system, the construction of a think tank, resource database.	6.4.1 Innovation course teaching system, scientific and technological innovation, patent innovation of scientific research system, and innovative talent training system, has a publishing system, construction of a think-tank, resource pool, these are in place and we are now preparing teaching, scientific research, innovation management, talent training, campus practice base, schools and enterprise cooperation, patent achievements elements such as integration of innovation cloud system.	7.4.1 In my opinion, Baise University has established many innovative cultural construction systems, innovative curriculum teaching system, scientific and technological innovation, patent transformation innovation and scientific research system, innovation competition at a fixed time every year, innovative student management system, publishing system, think tank and resource database.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
4. What kinds of system of innovation cultural building which already in place?						
8.4.1 I think Baise University innovation curriculum teaching system, scientific and technological innovation, patent transformation innovation scientific research system, think tank, resource database and publishing system have been in place.	9.4.1 I know of the innovative curriculum teaching system and innovative student management system, other listen to the teacher said, but I have not understand, I will slowly understand in the future.	10.4.1 I know that there are innovative curriculum teaching system, innovative student management system and resource database. I heard the teacher say that an innovation cloud platform is being built.	Innovative curriculum teaching system (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10); Innovation research system (R1, R2, R3, R4, R5, R6, R7, R8); Publishing system (R1, R4, R5, R5, R6, R7); Think tank and resource database (R1, R3, R4, R5, R6, R8); Innovative Student Management System (R2, R3, R 5, R7, R 10) planning (R6, R10); C Innovation Competition (R7)	Innovative curriculum teaching system; innovative scientific research system; publishing system; think tank and resource database; innovative cloud system.	Innovate culture build system.	The construction system of innovative culture is in place and can make the innovative culture better.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
5. How satisfied are you with the current culture atmosphere of innovation at Baise university?						
1.5.1 Basically satisfied, have innovative cultural atmosphere, teachers and students innovation behavior is relatively good, innovation ability is also relatively strong, but still not strong enough.	2.5.1 Relatively satisfied, the innovation cultural atmosphere is relatively strong.	3.5.1 Yes, I am satisfied that both teachers and students actively participate in innovation, and the school also encourages innovation, such as the school sets up innovation awards, and the school's innovation cultural atmosphere is relatively strong.	4.5.1 Yes, more satisfied, both teachers and students actively participate in innovation, teachers also actively encourage students to innovate in the teaching process, the school also very encourages innovation, the school innovation cultural atmosphere is relatively strong.	5.5.1 Yes, I am satisfied that both teachers and students are actively involved in innovation. The school offers innovative courses, and students also like this course, and the school has a strong innovative cultural atmosphere.	6.5.1 Yes, I am satisfied. Both students, teachers, including myself, are actively involved in innovation. My previous proposal of offering innovative courses has been adopted by the school, and the students also have a strong innovative cultural atmosphere.	7.5.1 Yes, I are satisfied. Both teachers and students actively participate in innovation. The school offers innovative courses, students like this course, and the teacher will lead students to actively participate in innovation. I think we can do better

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
5. How satisfied are you with the current culture atmosphere of innovation at Baise university?						
8.5.1 Yes, I am quite satisfied. Teachers and students, the school offers innovative courses, and there are professional innovative course teachers, teachers are very serious about the research and teaching of this course, students also like this course, and the teacher will lead students to actively participate in innovation. The school has a strong innovative cultural atmosphere.	9.5.1 More satisfied, teachers often encourage us to participate in innovation, in the classroom cited many enterprises and universities on innovation and innovation culture examples. The teacher also let us participate in the innovation, often guide us to participate in the innovation competition, the innovation cultural atmosphere is relatively strong.	10.5.1 I am satisfied that teachers often support and encourage us to participate in innovation, whether they take innovation courses or guide us to participate in innovation competitions, and the innovation cultural atmosphere is relatively strong.	Innovation Behavior (R1); Innovation Capacity (R1); participate in innovation (R3, R4, R5, R6, R7, R7, R8, R9, R10); Encourage innovation (R3, R4, R7, R8, R9); Innovation Curriculum (R5, R6, R7, R8, R9); Innovation Climate (R1, R 7)	Participate in innovation; encourage innovation; innovation curriculum; innovation atmosphere can become stronger	Innovative cultural atmosphere.	Innovative cultural atmosphere plays a role in promoting innovative culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
6. Does Baise University have policies and systems to support the creation of an innovative culture?						
1.6.1 Yes, there are performance policies, incentive policies to support the innovative culture of fiscal policies. There are also development plans for creating a culture of innovation.	2.6.1 Yes, there are performance policies, incentive policies, and fiscal policies that support a culture of innovation.	3.6.1 Yes, there are performance policies to reward innovation, such as completing an innovative project, the school encourages all departments to build innovative culture and fund them; the school also encourages different disciplines to create innovative culture and people from different majors to form innovative research teams. Teachers and students are also encouraged to carry out innovative activities, such as publishing innovative articles, and for creating innovative patents.	4.6.1 Very supportive, with performance policy support to reward innovation. Support teachers to participate in the construction of innovative culture, such as teachers to participate in the construction of innovative culture, if the excellent results can be used as a supporting condition for the promotion of a higher professional title. The university encourages all departments to build innovative culture and invest in them; encourages different disciplines to create innovative culture and encourages people from different majors to form innovative research teams.	5.6.1 Very supportive, with performance policy support to reward innovation. We will support teachers in building an innovative culture. The school invests funds to encourage all departments to build innovation culture. The school encourages different disciplines to create an innovative culture, and encourages people from different majors to form innovative research teams.	6.6.1 Very supportive, and there are many supportive measures, such as the performance policy to reward innovation, financial support, and the introduction of innovative talents to support the school's innovation culture construction.	7.6.1 Very supportive, with performance policy support to reward innovation. We will support teachers and students in participating in the development of an innovative culture. Innovation competitions are held at a fixed time every year to guide teachers and students to actively participate in innovation. Invest funds to build a culture of innovation. There are also beginning to be special innovation colleges. Build an innovation team.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
6. Does Baise University have policies and systems to support the creation of an innovative culture?						
8.6.1 Very supportive, with financial support, policy support, and the recruitment of specialized innovative talents. The construction of innovative culture will be incorporated into the school "14th five-year plan". In the planning.	9.6.1 Yes, I have listened to the teacher said the performance policy, reward policy, I have contact with the reward policy such as we participate in the innovation competition, the award will get a prize.	10.6.1 Yes, like we participate in the innovation competition, awards will get a prize, and also get credit points.	Performance policy (R1, R2, R3, R4, R5, R7, R8, R9); incentives (R1, R2, R3, R4, R6, R7, R9, R10); Fiscal policy (R1, R2, R6); Development Plan (R1, R8); encourage interprofessional innovation teams (R3, R4, R5, R7); introduction of innovative talents (R6, R8)	Performance policy; incentive policy; fiscal policy; encourage interprofessional innovation teams.	Policies and systems that support the creation of a culture of innovation.	Policy and system support can better establish a culture of innovation.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
7. How do you think that Baise University needs to do about in building innovation culture?						
1.7.1 In my opinion, the school should have policy support, capital investment, the active participation of teachers and students, a good innovation culture atmosphere, an innovation team, and create an innovation culture similar to an enterprise and suitable for the development of the school.	2.7.1 I think it can build innovation culture suitable for the development of our university.	3.7.1 In my opinion, to establish innovative culture, it is necessary to create a good atmosphere and to encourage the innovation policy to participate in innovation, and the second is to develop innovative culture, and to build innovative culture. Seventh, the establishment of an innovative culture requires long-term planning, so that the innovative culture meets the development needs of The Times.	4.7.1 In my opinion, to establish an innovative culture, we should introduce incentive policies more in line with the construction and development of innovative culture to encourage teachers and students to actively participate in innovation, create a good atmosphere for innovation, and improve the innovation behavior of teachers and students. More money is needed to build innovation culture; strengthen innovation team building and encourage teachers and students to develop team spirit. Formulate the innovative culture construction plan in line with the development of the school, and the establishment of innovative culture needs to make long-term planning.	5.7.1 In my opinion, the establishment of innovation culture cannot be separated from the support of school policies, the investment of school funds, the active participation of teachers and students, a good atmosphere of innovation culture, and more innovation teams.	6.7.1 I think to establish an innovative culture, to have the determination and courage to create an innovative culture. Have a system of innovative culture. There should be policy support. To obtain the recognition of school leaders, teachers and students, and increase the support and participation of teachers and students to the innovative culture. There should be a good cultural and cultural atmosphere for innovation. Build more innovation teams.	7.7.1 In my opinion, to establish innovation culture, schools should support it, including policy support, financial support, and open special innovation courses. Need the support of school leaders and the active participation of teachers and students. It should also guide teachers and students to actively participate in innovation and improve their innovation ability. Create more conditions conducive to the construction of innovation culture (system, publishing, communication, team building, etc.), and form a good atmosphere of innovation culture.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
7. How do you think that Baise University needs to do about in building innovation culture						
8.7.1 In my opinion, to establish a culture of innovation, schools should support it, have perfect plans, have policy and financial support, and set up special innovation courses. Introducing innovative talents. Encourage and support teachers and students to actively participate, guide teachers and students to actively participate in innovation, cultivate the innovation behavior of teachers and students, improve their innovation ability, and form a good innovation cultural atmosphere.	9.7.1 I think first of all, we should make a plan to build innovation culture that suits the development needs of schools. Second, there is more policy support, such as rewards, funds, etc. Finally, the conditions for creating innovative culture such as open communication system, innovation resource base, more courses about innovation, more innovative professional teachers, and more campus landscape with innovative culture.	10.7.1 I think there should be policy support, capital investment, innovative courses, innovation platforms and so on.	Policy support (R1, R3, R4, R5, R6, R7, R8, R9); Financial support (R1, R5, R7, R8, R9); Good innovative cultural atmosphere (R1, R2, R4, R5, R6, R7, R8); The Innovation Team (R1, R4, R5, R6, R7); Innovative culture suitable for school development (R1, R2, R9); Have a development plan (R4, R8, R9); Determination and courage (R6); An innovative cultural system (R6); Introducing Innovative Talents (R8, R9); Conditions for Creating a culture of innovation (R9); Innovative courses (R9, R10); Innovation Platform (R10)	Support; good innovation culture atmosphere; innovation team; conditions for creating innovation culture; introduction of innovative talents.	Innovative cultural atmosphere and conditions	Building innovation culture should strengthen the innovation atmosphere; to create more conditions to establish innovation culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
8. Do you think encouraging teachers and students to be creative can build innovation cultural?						
1.8.1 Yes, the school encourages creativity and encourages teachers and students to innovate, so that the innovation ability of teachers and students will be improved, so encouraging teachers and students to be creative can establish an innovation culture.	2.8.1 Yes, the creative influence of teachers and students to establish an innovative culture will promote the construction of innovative culture.	3.8.1 Yes, encourage teachers and students 'creativity can improve the teachers and students' innovation ability, when the students' innovation ability is further improved, can create more innovative products or projects, and enhance the overall innovation ability, improve the competitiveness of the school, to promote the construction of innovative culture.	4.8.1 Yes, the creativity of teachers and students can be improved to help them improve their innovation ability. When the innovation ability of teachers and students is further improved, the school innovation atmosphere becomes better, which is conducive to the school innovation culture.	5.8.1 Yes, teachers are creative, in order to cultivate students' creativity. Only when the school encourages creativity, the teachers and students will have the motivation to innovate and take the initiative to improve their innovation ability. The school's innovation atmosphere becomes better, which is conducive to the school to create an innovative culture and improve the competitiveness of the school.	6.8.1 Yes, only when the school encourages creativity, teachers and students will have the motivation to innovate and take the initiative to improve their innovation ability. The school's innovation atmosphere becomes better, which is conducive to the school to create an innovative culture and improve the competitiveness of the school. I previously put forward the proposal of opening innovative courses in order to better improve the innovation ability of teachers and students and promote the construction of innovative culture in schools.	7.8.1 Yes, encourage teachers and students to be creative, teachers and students' innovation enthusiasm will improve, teachers and students will have innovation power, will take the initiative to improve their innovation ability, such as our innovation competition, can make teachers and students in the competition, also can make teachers and students more willing to participate in innovation, contribute to the school construction innovation culture.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
8. Do you think encouraging teachers and students to be creative can build innovation cultural?						
8.8.1 Yes, teachers and students are creative, will take the initiative to cultivate their own innovative behavior, actively improve their innovation ability, encourage teachers and students to be creative can establish an innovative culture.	9.8.1 Yes, the creativity of teachers and students can make the school better establish an innovative culture. The school encourages teachers and students to be creative to stimulate the innovation enthusiasm of teachers and students, improve the innovation ability of teachers and students, and promote the construction of innovative culture.	10.8.1 Yes, the school encourages teachers and students to be creative, improve the innovation ability of teachers and students, and promotes the construction of innovative culture.	Encourage students (R1, R2, R3, R4, R5, R6, R6, R9, R10); promote the establishment of innovation culture (R1, R2, R4, R5, R6, R7, R9, R5, R8, R10); R3, R5, R7); R4, R 5, R6) (R5, R6, R7, R9) (R5)	Encourage teachers and students to innovate; improve the competitiveness of schools.	Encourage teachers and students to be creative	Encouraging teachers and students to be creative can establish an innovative culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
9. Do you think innovation behavior is promoting the construction of innovation culture?						
1.9.1 Yes, the innovation behavior of teachers and students can improve the innovation ability of teachers and students, and can also form a strong innovation atmosphere, so the innovation behavior can promote the construction of innovation culture.	2.9.1 Yes, an innovative culture requires innovative behavior.	3.9.1 Yes, the innovative behavior of teachers and students can promote their innovation ability, and the innovation ability of teachers and students can promote the development of school innovation culture.	4.9.1 Yes, the innovation behavior of teachers and students can promote their innovation ability, so that there is a healthy competition between teachers and students, so that they can improve their innovation ability in the competition, which is conducive to the development of the school's innovation culture.	5.9.1 Yes, we have formulated a series of measures on innovative culture, one of which is to encourage teachers and students to participate in innovation, improve their innovative behavior and innovative ability, and gradually form a strong innovative atmosphere, so as to promote the development of innovative culture in Baise University.	6.9.1 Yes, innovation behavior is conducive to the improvement of innovation ability, the formation of a strong innovation atmosphere, and conducive to the development of school innovation culture.	7.9.1 Yes, for example, our measures of innovation culture and innovation competition are also held to let teachers and students participate in innovation, improve the innovation behavior and innovation ability of teachers and students, so as to promote the development of innovative culture of Baise University.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
9. Do you think innovation behavior is promoting the construction of innovation culture?						
8.9.1 Yes, letting teachers and students participate in innovation and cultivating students' innovative behavior will help to improve the innovation ability of teachers and students and contribute to the construction of innovation culture of Baise University.	9.9.1 Yes, I think the innovation behavior can let us improve our innovation ability, just like we participate in the innovation competition, which can make us actively participate in the innovation, enrich our innovation behavior, and improve our innovation ability. So I think an innovation culture needs an innovative behavior.	10.9.1 Yes, I think innovation behavior is the consciousness of teachers and students for innovation, which can be integrated into our study and life, and can help to improve our innovation ability. So I think an innovative culture needs an innovative behavior.	Innovation behavior can improve the innovation ability of teachers and students (R1, R3, R4, R5, R6, R7, R8, R9, R10); form innovation atmosphere (R1, R5, R6) and facilitate the development of school innovation culture (R2, R3, R4, R5, R6, R7, R8, R9, R10)	Innovation behavior; innovation ability; innovation atmosphere;	Innovative behavior	Innovation behavior promotes the construction of innovation culture.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
10. Do you think that communication and self-belief is the key to building a culture of innovation?						
1.10.1 Yes, communication and confidence are important to building a culture of innovation. Only with more communication can innovative knowledge be shared. Only by being more confident can innovation participants not be afraid of failure and participate in innovation bravely.	2.10.1 Building a culture of innovation requires more communication and confidence.	3.10.1 Yes, the establishment of innovative culture cannot be separated from more effective communication, but also requires all teachers and students to actively participate in the construction of innovative culture. Of course, it also needs to have enough confidence to build a good innovation culture. So I think communication and confidence are one of the key factors in building a culture of innovation.	4.10.1 Yes, I think it is necessary to establish a culture of innovation requires effective communication, so that we can better share knowledge and brainstorm. Also cannot do without enough confidence, believe that they can innovate, so as to build a good innovation culture.	5.10.1 Yes, effective communication can make it easier for teachers and students to participate in innovation and broaden the coverage of innovation knowledge. Confidence can make teachers and students refuse to be shy, question, not afraid of failure, participate in innovation, and promote the construction of innovative culture of Baise University.	6.10.1 Yes, effective communication makes it easier for teachers and students to share knowledge and innovative ideas. Confidence can make teachers and students more not afraid of failure, brave to participate in innovation, so as to build a good innovation culture.	7.10.1 Yes, effective communication enables teachers and students to gain more knowledge and promote knowledge sharing. Confidence can make teachers and students dare to brainstorm, dare to ask questions, and try to find solutions to problems, so as to improve their innovative ability, and promote the construction of innovative culture in Baise University.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
10. Do you think that communication and self-belief is the key to building a culture of innovation?						
8.10.1 Yes, effective communication and confidence can make teachers and students more deeply integrated with knowledge. Teachers and students also dare to face challenges and innovate bravely. Their innovation ability is improved to promote the construction of innovation culture of Baise University.	9.10.1 Yes, I think communication can let us students get more knowledge, such as communication with teachers will get some knowledge answers, communication with students can let us get more innovative ideas. Confidence can make us more brave to try innovation, even if our students innovation failure is not much loss, and can gain more experience. So I think building a culture of innovation requires more communication and confidence.	10.10.1 Yes, I think communication allows us to get more innovative ideas, knowledge, experience and inspiration. Confidence makes us dare to try and innovate. So I think building a culture of innovation requires more communication and confidence.	Communication and confidence are important for building innovation culture (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10); communication for sharing knowledge of innovation (R1, R3, R4, R6, R6, R10); confidence enables innovation participants to bravely participate in innovation (R1, R3, R4, R5, R 6, R7, R8, R9, R10); effective communication makes it easier for teachers and students to participate in innovation and expand coverage of innovation knowledge (R5, R8, R9)	Communication; confidence;	Communication; confidence;	Communication and confidence is the key to building a culture of innovation.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
11. Do you agree that creating an open communication system is conducive to building an innovative culture?						
<p>1.11.1</p> <p>Yes, it is quite important to build an open communication system that gives innovative participants access to more communication and relevant data. But Baise University is not yet. I heard that the innovative cloud system is under construction, and I hope we can complete the construction soon.</p>	<p>2.11.1</p> <p>Yes, I think the communication system developed is a factor in building a culture of innovation.</p>	<p>3.11.1</p> <p>Yes, because the establishment of innovative culture cannot be separated from more effective communication, and teachers and students need to actively participate in the construction of innovative culture, open communication system is conducive to effective communication between teachers and students, so I think open communication system is a factor in the establishment of innovative culture.</p>	<p>4.11.1</p> <p>Yes, the open communication system makes it more convenient for teachers and students to communicate effectively, more conducive to the exploration and sharing of innovative knowledge, improve the understanding and coverage of teachers and students, and promote the construction of innovative culture in schools. Therefore, I think the creation of an open communication system is conducive to the establishment of innovative culture.</p>	<p>5.11.1</p> <p>Yes, I think to create an open communication system or communication platform can be some innovative ideas get more people perfect and enrich, inspire teachers and students to explore innovative knowledge and sharing potential, I mentioned preparation innovation cloud system, its purpose is to promote school innovation culture construction, so I think it is necessary to create open communication system, and the faster to create the better.</p>	<p>6.11.1</p> <p>Yes, I think to create an open communication system or communication platform can be some innovative ideas for more people perfect and enrich, stimulate teachers and students to explore innovative knowledge and sharing potential, promote school innovation culture construction, so I think to create open communication system is conducive to establish innovation culture.</p>	<p>7.11.1</p> <p>Yes, I think creating an open communication system, such as a cloud system, can involve more people in innovation. There are also regular innovation competitions, which can also allow teachers and students to have more communication and learn from each other in the competition, which is conducive to the construction of school innovation culture.</p>

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
11. Do you agree that creating an open communication system is conducive to building an innovative culture?						
8.11.1 Yes, I think creating an open communication system can allow more people to participate in the innovation in the system, and even get some good ideas for innovation. It is conducive to the construction of school innovation culture.	9.11.1 Yes, I think an open communication system allows us to get more innovative knowledge and ideas, which is a factor in building an innovative culture.	9.11.1 Yes, I think the open communication system can allow us to get more innovative knowledge and ideas, and make it more convenient for us to communicate with teachers and communicate with classmates.	It is important to establish an open communication system (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10) and more access to innovative participants and related data (R1, R4, R5, R6, R7, R9R10). Construction (R1, R5) as soon as possible; open communication system is a factor influencing the establishment of innovation culture (R3) and regular innovation competition (R7)	Open communication system;	Open communication system; Creating an open communication system is conducive to building a culture of innovation.	Creating an open communication system is conducive to building a culture of innovation.

Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7
12. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?						
1.12.1 Yes, supportive collaboration across teams, units, and departments can improve knowledge and data and promote innovation.	2.12.1 Yes, innovation is inseparable from teamwork.	3.12.1 Yes, we agree that supportive collaboration across teams, units and departments can allow teachers and students of different disciplines to directly communicate and share knowledge extensively, while innovation cannot be separated from teamwork.	4.12.1 Yes, supportive collaboration across teams, units and departments can enrich the knowledge coverage of teams, so that different ideas, viewpoints and logical thinking can be combined more effectively together to promote innovation.	5.12.1 Yes, supportive collaboration between teams, units and departments is conducive to the improvement of the knowledge structure, and the innovative cloud system also has this function, which will promote innovation between teachers and students.	6.12.1 Yes, supportive collaboration across teams, units and departments is conducive to the improvement of the knowledge architecture. For example, a project involves the knowledge of different majors, and mutual assistance can integrate the knowledge of different majors into the same project.	7.12.1 Yes, supportive collaboration between teams, units and departments is conducive to knowledge sharing, achieving complementary advantages and promoting innovation between teachers and students.

Respondent 8	Respondent 9	Respondent 10	Coding round 1	Coding cycle 2	Categorizing (Keyword)	evaluate
12. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?						
8.12.1 Yes, supportive collaboration across teams, units and departments is conducive to integrating the views and ideas of different expertise, achieving complementary advantages and promoting innovation between teachers and students.	9.12.1 Yes, I think from the perspective of our students, just like we participate in innovation competitions, teams of students from different majors often do better than teams of students of the same major, so I think support collaboration across teams, units and departments can promote innovation.	10.12.1 Yes, I think supportive collaboration across teams, units and departments can complement each other, exchange needed goods, and promote innovation.	Supporting supportive collaboration across teams, units, and departments can improve knowledge and data (R1, R5, R6, R8); promote innovation (R1, R4, R5, R7, R8, R9, R10); innovation and teamwork (R2, R3, R9) Extensive exchange and sharing of knowledge (R3, R4, R7, R10)	Supporting collaboration across teams, units and departments; team work; communicating and sharing knowledge	Supporting collaboration across teams, units, and departments; team work.	Supporting collaboration across teams, units, and departments can promote innovation.

Appendix D

Questionnaire



How to build innovation cultural in Baise University

Dear Research Respondents,

Hello, everyone. We are doing a survey on how to build innovation cultural in Baise University. The purpose is to understand the innovation cultural atmosphere and the innovation cultural development prospects of Baise University. It provides a theoretical reference for Baise University to build an innovation culture. Your answer will be kept completely confidential. You may want 20 minutes to complete this questionnaire, please think carefully before filling it out, it is very important for us. Thank you for your cooperation.

If you have any question please contact **HAO**

Phone: 18377618750

Email: 1450601980@qq.com

Direction: Please read the research questions and choose your best answer

Part I: Basic Information

Please mark \surd in the following questions that meet your basic situation

1. What is your gender?

Male

Female

2. How old are you?

Under 30 years old

31-40 years old

41-50 years old

51-60 years old

3. Your identity

 Teachers Students

4. Years of services in Baise University

 Less than 1 year More than 1 year to 3 years More than 3 years to 5 years More than 5 years to 10 years More than 10 years

Email contact (Please specify) _____

QQ number (Please specify) _____

Part II: Investigation Items

Item	Research Questions	1.Strongly disagreed 2.Disagreed 3.Neutral 4.Agreed 5.Strongly agreed				
		1	2	3	4	5
1	Whether Baise University offers a course on innovation?					
2	Does Baise University support innovation?					
3	Do you think an innovative culture is good for Baise University?					
4	Do you think Baise University strongly supports the construction of innovative culture?					
5	Do you think the innovation culture is important in the future?					

Item	Research Questions	1.Strongly disagreed 2.Disagreed 3.Neutral 4.Agreed 5.Strongly agreed				
		1	2	3	4	5
6	Do you think building an innovation platform is useful for the construction of innovation culture of Baise University?					
7	Do you think creating R & D systems is important for a culture of innovation?					
8	Do you think it is important to create innovation knowledge database for innovation culture?					
9	How do you view the innovative cultural atmosphere of Baise University?					
10	Do you think creating an innovative cultural atmosphere is useful for Baise University to create an innovative culture in Baise University?					
11	Has Baise University introduced an innovation system?					
12	Do you think the creation of a patent system is important for a culture of innovation?					
13	Do you think Baise University strongly supports the construction of innovative culture in policies and system?					

Item	Research Questions	1.Strongly disagreed 2.Disagreed 3.Neutral 4.Agreed 5.Strongly agreed				
		1	2	3	4	5
14	Do you agree that effective incentives will help to build innovation culture in Baise University?					
15	Do you think the innovation culture can improve the innovation ability of the teachers and students of Baise University?					
16	Do you think the innovation behavior promotes the construction of the innovation culture?					
17	Do you think Baise University encourages teachers and students to innovate?					
18	Do you think that communication and confidence are the key to building a culture of innovation?					
19	Do you agree that building an open communication system is conducive to building a culture of innovation?					
20	Do you agree to supportive collaboration across teams, across units, and across departments to promote innovation?					
21	Do you think teamwork is important in work?					

Appendix E

IOC Item Content Validity



**Master in
Business Innovation**



Title: How to build innovation cultural in Baise University.

Objective: Using qualitative analysis and quantitative analysis methods, this paper proposes the strategy of creating innovation culture by summarizing some views and suggestions of teachers and students. It provides a theoretical basis for the construction of Baise University, so as to create an innovative culture and improve the competitiveness of Baise University.

Student ID: 7640201484

Student Name: HAO JIANG

Date of Collection April 8th, 2022

Questions	Expert 1	Comment & Suggestion
	Dr.Rui Chen	
1. How satisfied are you with the current culture of innovation at Baise university?	1	
2. Do you think Baise University will support to build innovation cultural?	1	
3. Do you think there is a future for innovation cultural?	0	Repeat with question 4 and recommended removal.
4. Do you think innovation cultural will be important in the future?	1	
5. What kinds of system of innovation	1	

Questions	Expert 1	Comment & Suggestion
	Dr.Rui Chen	
cultural building which already in place?		
6. How satisfied are you with the current culture atmosphere of innovation at Baise university?	1	
7. Does Baise University have policies and systems to support the creation of an innovative culture?	1	
8. How do you think that Baise University needs to do about in building innovation culture?	1	
9. Do you think encouraging teachers and students to be creative can build innovation culture?	1	
10. Do you think innovation behavior is promoting the construction of innovation culture?	1	
11. Do you think that communication and self-belief are the key to building a culture of innovation?	1	
12. Do you agree that creating an open communication system is conducive to building an innovative culture?	1	

Questions	Expert 1	Comment & Suggestion
	Dr.Rui Chen	
13. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	1	

Approved and Endorsed:

Rui chen

Dr.Rui Chen

Contact Number: 0776-2848126

Lecturer: Teacher of Baise University, PHD



IOC Item Content Validity

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Student Name: HAO JIANG

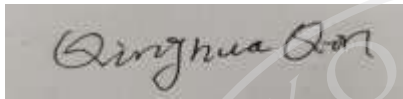
Date of Collection April 8th, 2022

Questions	Expert 1	Comment & Suggestion
	Dr. Qinghua Qin	
1. How satisfied are you with the current culture of innovation at Baise university?	1	
2. Do you think Baise University will support to build innovation cultural?	1	
3. Do you think there is a future for innovation cultural?	0	What kind of innovation cultural can be popular in the next ten years.
4. Do you think innovation cultural will be important in the future?	1	
5. What kinds of system of innovation cultural building which already in place?	1	

Questions	Expert 1	Comment & Suggestion
	Dr. Qinghua Qin	
6. How satisfied are you with the current culture atmosphere of innovation at Baise university?	1	
7. Does Baise University have policies and systems to support the creation of an innovative culture?	1	
8. How do you think that Baise University needs to do about in building innovation culture?	1	
9. Do you think encouraging teachers and students to be creative can build innovation cultural?	1	
10. Do you think innovation behavior is promoting the construction of innovation culture?	1	
11. Do you think that communication and self-belief are the key to building a culture of innovation?	1	
12. Do you agree that creating an open communication system is conducive to building an innovative culture?	1	

Questions	Expert 1	Comment & Suggestion
	Dr. Qinghua Qin	
13. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	1	

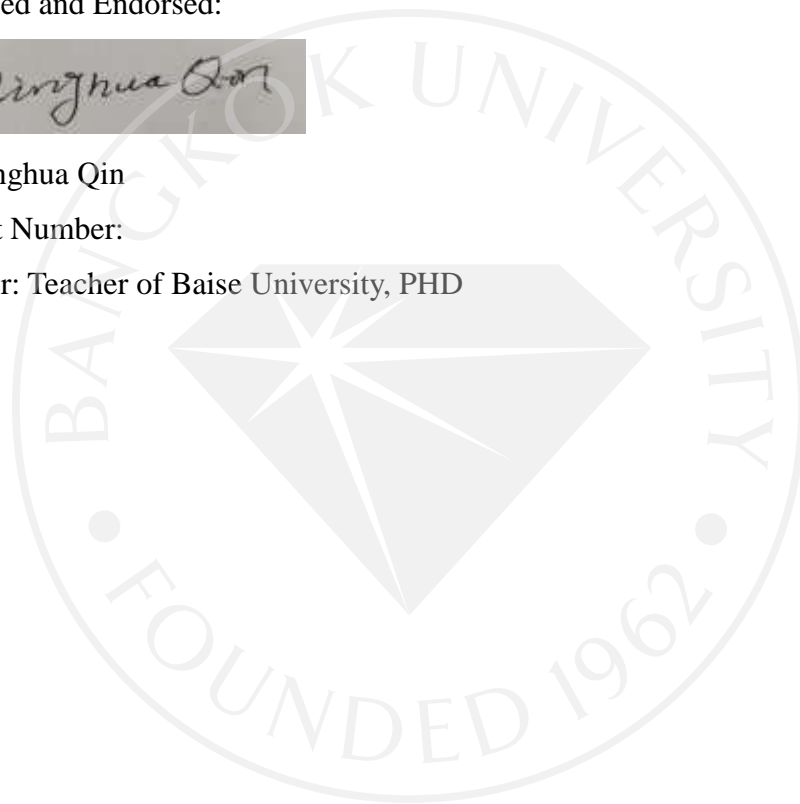
Approved and Endorsed:



Dr. Qinghua Qin

Contact Number:

Lecturer: Teacher of Baise University, PHD





IOC Item Content Validity

Title: How to build innovation cultural in Baise University.

Objective: Using qualitative analysis and quantitative analysis methods, this paper proposes the strategy of creating innovation culture by summarizing some views and suggestions of teachers and students. It provides a theoretical basis for the construction of Baise University, so as to create an innovative culture and improve the competitiveness of Baise University.

Student ID: 7640201484

Student Name: HAO JIANG

Date of Collection April 8th, 2022

Questions	Expert 1	Comment & Suggestion
	Dr.Bei Song	
1. How satisfied are you with the current culture of innovation at Baise university?	1	
2. Do you think Baise University will support to build innovation cultural?	1	
3. Do you think there is a future for innovation cultural?	0	Repeat
4. Do you think innovation cultural will be important in the future?	1	
5. What kinds of system of innovation cultural building which already in place?	1	
6. How satisfied are you with the current culture atmosphere of innovation at Baise university?	1	

Questions	Expert 1	Comment & Suggestion
	Dr.Bei Song	
7. Does Baise University have policies and systems to support the creation of an innovative culture?	1	
8. How do you think that Baise University needs to do about in building innovation culture?	1	
9. Do you think encouraging teachers and students to be creative can build innovation culture?	1	
10. Do you think innovation behavior is promoting the construction of innovation culture?	1	
11. Do you think that communication and self-belief are the key to building a culture of innovation?	1	
12. Do you agree that creating an open communication system is conducive to building an innovative culture?	1	
13. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	1	

Approved and Endorsed:

 Dr. Bei Song

Contact Number:

Lecturer: Director of Teacher Development Center of Baise University, Ph.D.



IOC Item Content Validity

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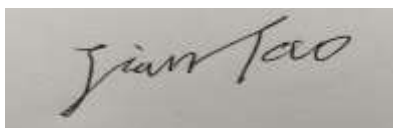
Student Name: HAO JIANG

Date of Collection April 8th, 2022

Questions	Expert 1	Comment & Suggestion
	Dr.Jian Tao	
1. How satisfied are you with the current culture of innovation at Baise university?	1	
2. Do you think Baise University will support to build innovation cultural?	1	
3. Do you think there is a future for innovation cultural?	0	Removal.
4. Do you think innovation cultural will be important in the future?	1	
5. What kinds of system of innovation cultural building which already in place?	1	
6. How satisfied are you with the current culture atmosphere of innovation at Baise university?	1	

Questions	Expert 1	Comment & Suggestion
	Dr.Jian Tao	
7. Does Baise University have policies and systems to support the creation of an innovative culture?	1	
8. How do you think that Baise University needs to do about in building innovation culture?	1	
9. Do you think encouraging teachers and students to be creative can build innovation cultural?	1	
10. Do you think innovation behavior is promoting the construction of innovation culture?	1	
11. Do you think that communication and self-belief are the key to building a culture of innovation?	1	
12. Do you agree that creating an open communication system is conducive to building an innovative culture?	1	
13. Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	1	

Approved and Endorsed:



Dr. Jian Tao

Contact Number: 0776-2848126

Lecturer: Teacher of Baise University, PHD



**Master in
Business Innovation**



IOC score table

Item	Question	Expert 1	Expert 2	Expert 3	Expert 4	IOC Score	Comment
		Dr. Rui Chen	Dr. Qinghua Qin	Dr. Bei Song	Dr. Jian Tao		
1	How satisfied are you with the current culture of innovation at Baise university?	1	1	1	1	1.00	
2	Do you think Baise University will support to build innovation cultural?	1	1	1	1	1.00	
3	Do you think there is a future for innovation cultural?	0	0	0	0	0	Repeat with question 4 and recommended removal.

Item	Question	Expert 1	Expert 2	Expert 3	Expert 4	IOC Score	Comment
4	Do you think innovation cultural will be important in the future?	1	1	1	1	1.00	
5	What kinds of system of innovation cultural building which already in place?	1	1	1	1	1.00	
6	How satisfied are you with the current culture atmosphere of innovation at Baise university?	1	1	1	1	1.00	
7	Does Baise University have policies and systems to support the creation of an innovative culture?	1	1	1	1	1.00	

Item	Question	Expert 1	Expert 2	Expert 3	Expert 4	IOC Score	Comment
		Dr. Rui Chen	Dr. Qinghua Qin	Dr. Bei Song	Dr. Jian Tao		
8	How do you think that Baise University needs to do about in building innovation culture?	1	1	1	1	1.00	
9	Do you think encouraging teachers and students to be creative can build innovation cultural?	0	1	1	1	1.00	
10	Do you think innovation behavior is promoting the construction of innovation culture?	1	1	1	1	1.00	

Item	Question	Expert 1	Expert 2	Expert 3	Expert 4	IOC Score	Comment
		Dr. Rui Chen	Dr. Qinghua Qin	Dr. Bei Song	Dr. Jian Tao		
11	Do you think that communication and self-belief are the key to building a culture of innovation?	1	1	1	1	1.00	
12	Do you agree that creating an open communication system is conducive to building an innovative culture?	1	1	1	1	1.00	
13	Do you agree that supportive collaboration across teams, units, and departments promotes innovation?	1	1	1	1	1.00	



**Master in
Business Innovation**



6th April, 2022

Dear Dr. Rui Chen,

Subject Expert for IOC Item Content Validity

My name is Dr. Varalee Chinerawat, Lecturer of MBI program The Institute for Knowledge and Innovation Southeast Asia of Bangkok University (IKI-SEA).

I would like to invite you to be tool validation expert for IS study of our international student, Mr. Hao Jiang who effected from COVID 19 and delayed his data collection in urgent need for his graduation in June, 2022.

The IS Title: How to build innovation cultural in Baise University.

Please print and sign and scan it back to my email varalee.c@bu.ac.th. For Original document with signature, we will wait until free of COVID 19 situation.

If you have any question, please do not hesitate contact me at +66 812787871

Best Regards,

Dr. Varalee Chinerawat

IKI-SEA

The Institute for Knowledge and Innovation – South-East Asia (IKI-SEA)

Bangkok University - Rama 4 Road – Klong Toey- Bangkok – 10110 – Thailand

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**Master in
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6th April, 2022

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Email 1450601980@qq.com

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September 2007to June 2011
Bachelor Degree at Baise University
Baise city Guangxi province.

