THE ADMINISTRATION STRATEGIES IN INDUSTRY COOPERATION OF GUANGXI VOCATIONAL UNIVERSITY

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A thesis submitted in partial fulfillment of the requirements for

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Thesis Title The Administration Strategies in Industry Cooperation of Vocational University in Guangxi

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ABSTRACT

The objectives of this research were: 1) to study the current situation of industry cooperation of Guangxi vocational university, 2) to develop the administration strategies in industry cooperation of Guangxi vocational university, 3) to evaluate the adaptability and feasibility of administration strategies in industry cooperation of Guangxi vocational university. The sample group is a vocational university in Guangxi. The overall study is two vocational universities in Guangxi, 95 middle -level leaders of these two vocational universities. The research tools are questionnaires, structured interview tables and evaluation forms. The method of statistical analysis of data has a percentage, average value, arithmetic average, standard deviation and content analysis.

The results of the study show that the current situation of cooperation between Guangxi Vocational University and Industry is at a medium level. The scope from the highest level to the lowest level is as follows: the highest level is the management system, followed by cooperative resources, and the lowest is the collaborative innovation model. There are 4 research strategies for vocational universities and industrial cooperation management strategies, including optimizing cooperation resources, optimizing cooperation models, and cooperation models, and cooperation models. Optimizing the strategy of optimizing collaborative innovation models and optimization management systems, including 40 measures. The management strategy is evaluated, and the evaluation results show that the management strategy has high adaptability and feasibility.

Keywords: Management strategies, Industrial cooperation, Vocational universities

ชื่อเรื่อง **กลยุทธ์การบริหารความร่วมมือของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรม**
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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์ 1) เพื่อศึกษาสภาพปัจจุบันของความร่วมมือระหว่างมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรม 2) เพื่อพัฒนากลยุทธ์การบริหารความร่วมมือของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรม และ 3) เพื่อประเมินความเหมาะสมและความเป็นไปได้ของกลยุทธ์การบริหารความร่วมมือของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรม กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ ได้แก่ มหาวิทยาลัยอาชีวะในมณฑลกวางสี 2 แห่ง ผู้บริหารระดับกลางจากมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสี จำนวน 95 คน เครื่องมือที่ใช้ในการวิจัย ได้แก่ แบบสอบถาม แบบสัมภาษณ์ และแบบประเมิน สถิติที่ใช้ในการวิจัย ได้แก่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตราฐานและการวิเคราะห์เชิงเนื้อหา

ผลการวิจัยพบว่าสภาพปัจจุบันของความร่วมมือของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรมโดยภาพรวมอยู่ในระดับกลาง เมื่อพิจารณารายด้านพบว่า ด้านระบบการจัดการมีค่าเฉลี่ยสูงสุด รองลงมาคือด้านความร่วมมือทางทรัพยากร ส่วนรูปแบบนวัตกรรมความร่วมมือมีค่าเฉลี่ยต่ำสุด กลยุทธ์การบริหารความร่วมมือของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีและภาคอุตสาหกรรมอาชีวศึกษาในมณฑลกวางสี ประกอบด้วย 4 กลยุทธ์ 40 มาตรการ ผลการประเมินความเหมาะสมและความเป็นไปได้ของกลยุทธ์การบริหารความร่วมมือด้านอุตสาหกรรมของมหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสีมีค่าเฉลี่ยอยู่ในระดับสูง

คำสำคัญ : กลยุทธ์การบริหารความร่วมมือ ภาคอุตสาหกรรม มหาวิทยาลัยอาชีวศึกษาในมณฑลกวางสี

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Ma Yaqin

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Chapter 1

Introduction

Rationale

For a long time, China’s higher vocational education has been limited to the junior college level. In 2019, the exploration and pilot program of undergraduate-level vocational education was officially proposed, which means that vocational undergraduate education has become an important part of China’s higher vocational education system, and it has a great impact on improving China’s modern vocational education system. Very important. As of October 2021, China has built 32 vocational undergraduate universities, including 2 new vocational undergraduate universities in Guangxi. The Ministry of Education has stipulated the school- running attributes, school-running orientation, school-running characteristics, and vocational undergraduate majors of newly-built vocational undergraduate universities, and clearly requires schools to build around industrial cooperation, professional construction, vocational training, and teaching staff, optimize school-running conditions, and improve The level of school governance is continuously improved to better serve the local economic and social development.

China's new vocational undergraduate universities are just getting started. There are still a series of problems and confusions in the specific aspects of running a school, such as talent training mode and integration of production and education. Therefore, in order to build a vocational undergraduate university that adapts to social and regional economic growth and serves local high-quality development, it is urgent to explore and optimize its educational management strategies in terms of industry-education integration and school-running models. This paper studies the Administration Strategy of Guangxi Vocational University and industry cooperation. The research results of this paper can be used as a reference for future research on the development and construction of vocational universities.

Synergy is a discipline that studies the synergistic effect and self-organization mechanism of different systems. Synergy theory is an important branch of complex

system theory. In recent decades, synergy theory has been widely used in social science research. The focus of synergy research is: how an open system that exchanges matter, energy and information with the outside world at all times leads to an orderly evolution of the system structure through internal synergy.

In 2021, the Office of the Degree Committee of the State Council recently issued the "Opinions on Doing a Bachelor degree in a bachelor's degree in undergraduate levels". Opinions have clearly clarified the policy basis and working scope of vocational undergraduate degree authorization, granting, etc., and the approval authority of the right to grant the bachelor's degree in vocational undergraduate degree and the basic conditions and granted methods, basic procedures, grant standards, granted types, bachelor's degree certificates and degree degree The grant information is required. In terms of implementation, ordinary undergraduate and vocational undergraduates have performed bachelor's degree in accordance with the "Regulations on the Academic Degree Regulations of the People's Republic of China", "Interim Implementation Measures for the Interim Regulations of the People's Republic of China", "Bachelor's degree authorization and granting management Measures"; In terms of the effectiveness of the certificate, the value of the two is equal, and has the same effect in terms of employment, postgraduate entrance examination, and examination.

There are currently only two vocational universities in Guangxi, Guangxi Vocational University of Agriculture, Guangxi City Vocational University.

The predecessor of Guangxi Agricultural Vocational University of Agricultural Vocational and Technical is the Guangxi Institute of Agricultural Vocational and Technical, and the predecessor of Guangxi City Vocational University is the Guangxi City Vocational College. At present, the two vocational universities are at the front end of vocational undergraduate education at the level of vocational undergraduate levels. At present, there are only 32 vocational colleges in China. The current status quo is the exploration stage of vocational undergraduate education. Regarding the industrial cooperation and education management of vocational undergraduates, in - depth research needs to be studied.

The vocational university is a higher vocational education at the undergraduate level, which is different from the original higher vocational college.

The training goal of vocational undergraduate education is not only high -level, but also high skills. In terms of educational goals, vocational undergraduate education pays more attention to the cultivation of comprehensive capabilities, and is proficient in equipment often used in the industry. For theoretical knowledge used in the profession, we must master solidity, and have a breadth and depth of the knowledge of the knowledge structure that requires students to grasp. There are also independent thinking and dialectics. Facing problems in the industry, solutions can be found. Solve practical problems for the development of the industry. It must also have certain design and management capabilities, and has strong professional ability, innovation ability, method ability, and organizational leadership ability. Pay attention to the cultivation of morality, intelligence, physical fitness, aesthetics, labor, etc.

According to the educational goals of vocational undergraduates, industrial cooperation is even more important in the education management of vocational undergraduates. Only with industry leading enterprises and leading enterprises, universities and industries jointly form a team of teachers to integrate the latest technical standards and job ability standards in the industry into the writing of textbooks. The development of teaching materials suitable for professional undergraduate development, and developing textbooks around the latest technology development of the enterprise, which is conducive to vocational universities and industrial cooperation. Working universities cooperate with industry to build training bases, which is conducive to the rapid development of vocational universities.

The vision of cooperation between vocational universities and industry is beautiful. In reality, there are still many problems with the development of the cooperation between vocational universities and industry. For example, the current local industries are relatively small, and the enthusiasm of industry participation in the education and teaching of vocational universities is not high. Vocational universities and industrial cooperation are a popular topic. The research on the management strategy of vocational universities and industrial cooperation in this article is important reference significance for the development of vocational undergraduates in the future.

Research Questions

1. What is the current situation of industry cooperation of vocational university in Guangxi?

2. What are the administration strategies in industry cooperation of vocational university in Guangxi?

3. Are the administration strategies in industry cooperation of vocational university in Guangxi adaptability and feasibility?

Objective

1. To study the current situation of industry cooperation of vocational university in Guangxi.

2. To develop the administration strategies in industry cooperation of vocational university in Guangxi.

3. To evaluate the adaptability and feasibility of administration strategies in industry cooperation of vocational university in Guangxi.

Scope of the Research

Population

The population of this research were mid-level administrators from vocational university in Guangxi, which including 50 mid-level administrators in Guangxi vocational University of Agriculture, and 45 mid-level administrators in Guangxi city vocational University, totaling 95 people. At present, there are two vocational universities in Guangxi, namely Guangxi Agricultural Vocational and Technical University, and Guangxi City Vocational University. Distributed in two cities including Nanning and Chongzuo.

Interviewees

The interviewees of this research were mid-level administrators of vocational university in Guangxi, which including 6 mid-level administrators inGuangxi vocational University of Agriculture, and 3 mid-level administrators in Guangxi city vocational University, totaling 9 people. The interviewee require condition is work as mid-level administrators in vocational university for more than 10 years.

evaluation experts

5 experts who expertise in research and teaching from vocational university in Guangxi were invited to evaluate the strategy. The expert's qualification is work in vocational university for more than 10 years.

Research Variable

This study draws on Zhang zai qun (2013), Wu Jihui(2021),Wu Xueshi (2021), Song Gao xu. (2020), Wang Danxia. (2020),and other scholars proposed by scholars, etc. The variables of this study are industrial cooperation. By selecting the frequency factors with frequency 4 or 4 as the influencing factor of research variables.

1) Cooperative resources

2) Cooperation mode

3) Collaborative innovation mode

4) Management system

Advantages

1. Understand the administration strategies in industry cooperation of Guangxi Vocational University.

2. To develop the administration strategies in industry cooperation of Guangxi Vocational University.

3. To evaluate the feasibility and adaptability strategies in industry cooperation Guangxi Vocational University.

Definition of Terms

1. Industry cooperation

Industry cooperation refers to the in-depth cooperation between enterprises and higher education institutions in teaching, scientific research, and talent training to jointly develop, explore, and promote the integration of industry-university-research.

The integration of production and education refers to the integration of vocational universities and local industries, including teaching activities carried out by vocational universities and industrial production activities. In accordance with the

laws of the market economy, based on common interests, new ideas, new technologies, new processes, and new products are integrated between industry and vocational universities. The integration of production and education through the docking between leaders, professional settings, docking of curriculum, docking of courses, management rights, management docking, posts, curriculum content, competitions, certificates docking, technical docking, etc. in deep integration and cooperation. From the perspective of industrial integration, local industries provide financial support and technical support, provide experimental training bases to promote the development of vocational universities; vocational universities take industrial development as the responsibility, provide the guarantee of talent training. Both vocational universities and industries use their own use of their respective parties. The development advantage is completed, complement each other, jointly build a common profit, and coordinate and innovate the development. The functions of talent training, social services, industrial development, and economic improvement between vocational universities and industries have been realized.

2. Cooperative resources

Cooperation resources refer to resources that are jointly invested, jointly developed, owned, used, and shared by multiple organizations or individuals. These resources can be material resources, such as production equipment and technical patents; or knowledge resources, such as research results, talent experience, market information, etc. Through the joint use and development of cooperative resources, it can not only save resource costs, improve the efficiency of resource utilization, but also promote mutual trust and interaction between partners, and enhance the stability and sustainability of cooperative relations. Cooperation resources are widely used in various industries, such as energy, transportation, telecommunications, finance, medical care, etc.

3. Cooperation mode

The cooperation model refers to a cooperative relationship and cooperation method formed by different subjects in a certain field, guided by common interests and goals. It refers to the form of cooperative relationships, the purpose of cooperation, the distribution of interests, and the management of the cooperation process. It is usually found a optimal solution with the joint efforts of both or more

parties to achieve the purpose of cooperation. The cooperation model can be regarded as a tangible or intangible framework. It stipulates the rules, principles, processes, and procedures that all parties should follow in the process of cooperation and aims to achieve the common interests of all parties. The cooperation model plays an important role in achieving a win-win situation, optimizing resource allocation, and enhancing overall competitiveness. It is also a powerful promotion factors that promote public entrepreneurship and innovation.

4. Collaborative innovation mode

The collaborative innovation model refers to the in-depth collaboration of enterprises and higher education institutions to implement innovative activities, learning and creating value together. Coordinated innovation model refers to the coordination and coordinated innovation model between different fields, different industries, and different disciplines. The core of this model is to strengthen the coordination, cooperation, and innovation capabilities between different subjects to achieve innovative complementarity and synergistic effects. Coordinated innovation requires full communication and communication between various fields, industries, and disciplines to achieve collaborative innovation at different levels to promote the complementary advantages and resource sharing of mutual mutual. Realize the goal of crossing disciplines, fields, and industry integration, and promote major breakthroughs in industrial synergy, knowledge integration, resource sharing, cross - integration.

5. Management system

The management system refers to the rules and regulations, division of responsibilities, and management systems based on the integration of production and education and the collaborative innovation model. The content of the management system generally includes various regulations, systems and procedures of enterprises or organizations. It aims to standardize the work and behaviors of all aspects of the organization, ensure the coordination and efficient operation of the organization, and avoid risks and misunderstanding. The management system runs through the entire operation process of enterprises or organizations, which plays an important role in operating management, internal control, and risk prevention of enterprises or organizations.

6. Vocational University

Vocational universities refer to a undergraduate higher education institution with high-quality application -oriented talents with good professional literacy and practical operation capabilities. Vocational undergraduate universities pay attention to the construction of practical teaching and industry-academia and promote the construction of training bases such as practical teaching bases and talent training centers. Pay attention to cultivating students' professional ability and practical operation ability and is committed to meeting the needs of enterprises and society for practical talents.

Research Framework

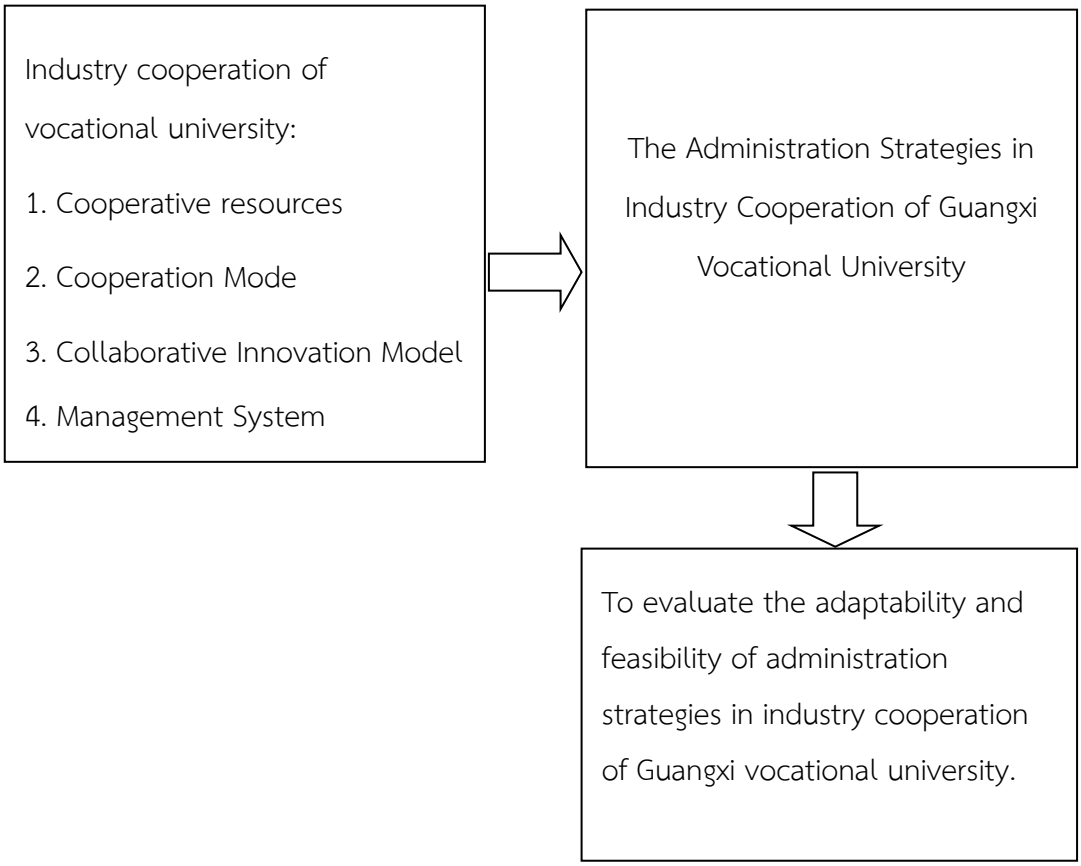

Figure 1.1 Research Framework

Chapter 2

Literature Review

This chapter uses the literature research method to search, screen and organize the literature. The researchers searched relevant literature through online databases such as China VIP Journals, Wanfang Data, CNKI, China Social Science Citation Index, Cambridge Journals, Oxford Journals, etc.; research provides a theoretical basis.

1. Concept of educational administration
2. Concept of cooperation
3. Context of vocational university
4. Related research

The details are as follows:

Concept of Educational Administration

Educational administration refers to the process and methods of formulating educational goals, planning, organization, coordination, supervision, and evaluation through a series of management activities such as educational policies, planning, organization, coordination, supervision, and evaluation. It includes the management of educational resources, the training of talents, teaching organizations and management, teacher education and management, education administration and services. The purpose is to maintain the fairness of education, promote the comprehensive development of students, improve the level of education and social civilization.

The following are some references and author's point of view of educational management:

Li Yajuan.(2016). It mainly introduces the basic concepts, theories, principles, methods, and various issues and challenges in educational management. Li Yajuan believes that in modern society, education management must be combined with market economy development, social change, and education innovation to meet the needs and challenges of the times.

Liu Ruoyu(2017). The book tells the basic theory, principles, methods and techniques of education management. Liu Ruoyu believes that education management should focus on the unity of policy to practice, from qualitative to quantitative transformation, from the transfer of attention to managers to the transfer of the administrator, and the measurement from the process to effect.

Chen Peng(2009). believes that education administration should focus on the combination of the requirements of education development, and use modern scientific and technological means to improve management efficiency and service level to achieve the common development of school management and education.

Lin Shaochun, Li Hui (2003). The book introduces the basic concepts, methods and tools of education quality management, as well as applications in education management. Lin Shaochun and Li Hui believe that the quality management of education is an effective means to meet the needs of all aspects and improve the quality of education.

Hallinger, P. (2003). explores the importance of changing in the field of education, as well as the importance of innovation and transformation leadership in this process.

Kuan, P. Y. (2013). Discussion of the impact of transformational leaders on the work satisfaction of the subordinate of education management.

Hargreaves, A. (2003). It explains the impact of changes in the knowledge and social labor market on teaching work, and discusses the strategy of educational management to deal with these changes.

Lee, J. C. K. (2015). Reviewing and comprehensive analysis of school management policies and practices in global school management.

Solano-Flores, G. (2008). Discuss the political process of formulating and implementing the formulation of education reform policies in developing countries.

TAN, B. (2017). Emphasizing the importance of culture in educational management and discussed the education management practice of Asian countries in different cultural environments.

Huisman, J. (2004). Discuss the responsibility system and accountability system in higher education and discuss how to achieve effective education management.

Li, J. (2013). Discuss the importance of educational management from the perspective of learning society and emphasize that educational management must serve learners and learning society.

Shulman, L. S. (1998). Overview of the research and policies of teaching and teacher education and exploring how to apply these studies to education management.

Gao Jingtao. (2018). Discuss the management model of higher education and response strategies. Starting from the need for reform of higher education, the author has excavated the bottlenecks and problems existing in the current higher education management and proposed specific measures such as strengthening scientific management and improving leadership levels.

Guo Zhimin.(2017). The emergency plans for emergencies in education management. The author analyzes the impact of emergencies on education management and proposes specific measures such as improving emergency plans and strengthening emergency drills to improve the ability to deal with educational management.

Xie Xingzhong.(2016). expounded the importance of modern education management and discussed the theoretical foundation and practical experience required by modern education management. The author proposes specific strategies such as establishing a management model and optimizing the management process that meets the needs of future education to improve the efficiency of education management.

Zhao Ping. (2015). mainly explores the importance and necessity of innovation in higher education management. The author proposes two directions to promote institutional innovation and strengthen educational management, and provides specific strategies to enhance innovation in educational management work, in order to improve the level of teaching management work in universities.

Wang Baohua(2014). Research the relationship between informationization and innovation in university research management. The author analyzes the opportunities and challenges brought by informationization, and proposes specific measures to promote the development of informationization in scientific research management and strengthen information security guarantees, in order to promote innovation in university scientific research management.

Wang Zhigang.(2013). Through cross -disciplinary perspectives to study education management issues. Based on a variety of disciplines such as sociology, psychology and economics, the author analyzes the problems and challenges existing in education management and provides specific strategies such as establishing a comprehensive management mechanism and attaching importance to independent innovation to improve the effectiveness of education management.

Jiang Xiaofang. (2012). It mainly explores the online marketing strategies in college management. The author analyzes the differences and characteristics of college online marketing and traditional marketing and provides specific measures such as establishing a network marketing platform and optimizing marketing strategies to improve the level of network marketing management of universities.

Chen Chunguang. (2011). Research and analysis methods and applications in education management. The author analyzes the advantages and limitations of decision-making analysis methods in education management and provides specific measures such as optimizing decision -making analysis methods and improving managers' decision -making capabilities to improve education management efficiency.

Li Haiyan. (2010). Discuss the talent management of talent construction in colleges and universities. The author analyzes the problems and challenges existing in college talent management and provides specific measures such as strengthening

talent training and establishing a talent incentive mechanism to improve the level of talent management of college discipline construction.

Zhang Xiaoqiang. (2009). It mainly studies social network analysis and application in modern education management. The author analyzes the theoretical foundation and application of social network analysis and provides specific measures such as establishing a social network analysis model and strengthening data collection to improve the efficiency of education management.

Yan Lixia(2020) In the field of scientific research, the management content presents the characteristics of all aspects, systematic, accuracy, and structured, covering industry -university -research cooperation, results rewards, results transformation and technical transfer, allocation of management, institutions and base management, fund management, condition guarantee and conditions and conditions and conditions and conditions and conditions. Daily management, facilities and instrument management, teacher management, system management, statistical management, team management and other 14 secondary areas. The knowledge production system presents the precise regulations, standards and rectification of implementation of data quantification, and establish a structural reward system that collaborates in collaborative role such as subjects, categories, basis, and evaluation methods. Bleak

Administrative documents and management activities are homogeneous. The simplified management logic of the administrative perspective is characterized by effectiveness, measurement, predictable and controllable, and manifested as a seeking for quantitative data and certainty. In management practice, the simplified logic has a cognitive function, so that the management department can clearly and clearly grasp the original heterogeneous and complex higher education. This simplified management logic also has a control function, which helps enhance the government authority's ability to control higher education. At the same time, under the management of quantitative thinking, complicated, heterogeneous, vivid educational education is ignored, reflected in the selectivity presentation of the indicator settings, the target replacement of management methods, and the quality of digital management. In the top -down administrative and dominant system,

colleges and universities assimilate the external evaluation system into internal indicators to obtain the corresponding resources and legitimacy. As the basis for its own management activities and evaluations, the management of management represented by the target responsibility system is implemented The system sinks down the indicators and tasks, and uses the assessment indicators related to the personal interests of teachers to internalize the contents of the management index into the conscious behavior of teachers.

Peng Weijing (2021) The connection and interaction between the government, universities and communities in higher education governance promote the play of government functions, and government functions must be positioned within the framework of higher education governance. Based on the analysis of various levels, it is believed that in the process of modernization of China's higher education management, a modern higher education management main structure of "government leadership, university main body, and social initiative" should be constructed. In this main structure, in order for government departments to give full play to their leading role, they must proceed from the following three aspects: first, improve the conceptual understanding of the role of the government, and carry out good governance with the concept of co-governance, including strengthening the awareness of pluralistic management, improving the responsibility of "meta-governance", and adhering to the concept of people as the rule; The second is to improve the normative mechanism of the government's role and carry out democracy through a collaborative approach, including establishing a legal system with law as the core, improving the system of formulating regulations for colleges and universities, studying the administrative decision-making council system of colleges and universities, improving the information disclosure mechanism of colleges and universities, establishing an environment for the free development of intermediary organizations, and optimizing the power list system of colleges and universities; The third is to create behavioral means for government functions to achieve effectiveness in a coordinated way, including exploring pilot education contract management, actively using data-driven management, enhancing the

scientific and democratic nature of administrative decision-making, and improving its ability to reflect and "calibrate".

In summary, education management refers to activities that plan, organize, lead, coordinate, control and evaluate the education affairs. It is an important means to achieve the goal of educational goals, effectively manages effective management in terms of resources, manpower, and finance, continuously optimize the education process, and improve the quality and efficiency of education.

Concept of Cooperation

Concept of Cooperation refers to the in-depth cooperation between enterprises and higher education institutions in teaching, scientific research, and talent training to jointly develop, explore, and promote the integration of industry-university-research integration.

Relevant Theories and Concepts of Research Variables

Researchers summarize the statistics of scholars' research literature on vocational universities and industry cooperation:

Table 2.1 Scholars' research document statistical forms of university and industry cooperation

Researcher / Literature	Cooperative resources	Cooperation mode	Collaborative innovation mode	Management System	Cooperation benefits	Partnership	Cooperative environment
Zhang Mi er	√					√	
Zhang zai qun	√					√	
Johan Bruneel	√				√		
Ma Yongbin	√						
Li Lianshui		√					
WU Jihui		√	√				√
Chen Tao	√	√					
Fang Linyou		√					
Hong Yinxing			√	√			
Wang Danxia			√	√			
Wu xueshi	√		√	√			
Jiang Qi			√				
Jia wei					√		
Jiang Qing rong				√			
Huang Youli				√			
Songo gaoxu			√				

Guan Yi					√		

Table 2.1 Scholars' research document statistical forms of university and industry cooperation (Continue)

Researcher / Literature	**Cooperative resources**	**Cooperation mode**	**Collaborative innovation mode**	**Management System**	**Cooperation benefits**	**Partnership**	**Cooperative environment**
Mora-Valentin		√					
Hellstrom							
Xie Zhiyu						√	√
Guo Bin							√
frequency	**6**	**5**	**6**	**5**	**3**	**3**	**3**

Accoding to table 2.1, this study draws on Zhang zai qun. (2013), Wu Jihui(2021),Wu Xueshi (2021), Song Gao xu. (2020), Wang Danxia. (2020),and other scholars proposed by scholars, etc. The variables of this study are industrial cooperation. By selecting the frequency factors with frequency 4 or 4 as the influencing factor of research variables, 1) cooperation resources, 2) cooperation model, 3) coordinate innovation model, 4) management system.

Cooperative resources

Scholars have rich research on the Cooperative resources of university enterprise cooperation. From the perspective of factors affecting industry university research cooperation, Michael D. Santoro. (2002). believes that differences in capital sources and personnel structure will affect the efficiency of industry university research cooperation.

Zhang MIer. (2001). and others studied from the internal perspective of industry university research cooperation and believed that the main factor affecting the efficiency of cooperation was the transaction costs under different cooperation modes. Later scholars found that external environmental factors also have an important impact on industry university research. Intermediary organizations have provided great help in the establishment of the cooperative relationship between industry university research, greatly reducing the communication costs of both sides, and thus establishing a trust relationship between both sides.

Zhang Zaiqun (2013) The reason why enterprises and universities or scientific research institutes form industry-university-research collaborative innovation is to obtain their own scarce resources, and can combine the technical strength of both sides in order to improve competitive advantages in the product market and achieve the "results." The guidance of government departments has been added to the industry-university-research cooperative innovation, with the aim of establishing cooperative innovation more smoothly for small and medium-sized enterprises and colleges and universities or scientific research institutions. The cornerstone of collaborative innovation between the company and colleges and universities or scientific research institutions is the complementary resources of innovation and development of both sides, and the complementary resources become shared resources for both parties in the process of formation of both parties and under the guidance of the government. Generally speaking, the resources of enterprises and schools or scientific research institutes are all advantageous resources, that is, the weak resources of other parties, under the drive of local government departments,

the advantageous resources are jointly integrated to carry out collaborative innovation and scientific and technological achievements transformation, and the quality and quantity of resource input have also become an important basis for members to gain the right to speak, and the principle of resource complementarity. The first task in selecting a partner is to see if a potential co-innovation partner can provide some kind of advantage and expertise to accomplish a task that cannot be done on its own terms. In the selection of partners, if the party with better matching of its own resources is chosen, the formation of collaborative innovation can be smoother, the stronger the complementarity of resources, the closer the relationship between cooperative innovation partners, and the better the cooperative innovation performance. For enterprises, the core capabilities of funds, equipment and technology are the most important, while for universities or research institutes, knowledge resources and core capabilities of scientific research are the most important, and cooperation resources mainly emphasize similarity and availability, that is, they are more compatible with the degree of utilization of both members in terms of total amount.

Huang Youli. (2010). The influencing factors of industry-academia cooperation are systematically reviewed, and the main characteristics of the two partners, the existing system, and the environment of industry-academia cooperation are discussed. The main level includes the scale, research intensity, and openness of SMEs, the university's industry research investment, R&D quality, technology transfer office, age, academic status and gender of teachers or researchers; Existing institutional dimensions include four aspects: trust, learning, motivation and culture; Environmental factors include risk capital, government and geographic proximity.

Xiezhiyu. (2004). The study pointed out that the main influencing factors of industry-university-research cooperation include the company's absorption capacity, the close relationship with industry-university-research cooperation, the ambiguity of the external environment of collaboration, etc., and the company's collaborative behavior and collaboration mode will also affect the efficiency of industry-university-research cooperation.

Liu Hedong and Qian Dan. (2016). The authors point out that empirical data analysis was carried out on technology companies, and it is believed that the three intrinsic factors of the company's absorption capacity, the degree of collaboration between industry-university-research and the technical conversion rate of the scientific research side have obvious positive effects on the collaborative behavior of industry-university-research, while the degree of collaboration has no obvious impact on the joint model of industry-university-research, while the other two factors also have obvious positive effects on the joint model. The external factor of government policy support has a significant positive effect on the industry-university-research cooperation mechanism and collaborative behavior.

Johan bruneelet al. (2010). investigated the Cooperative resources of university industry cooperation barriers, explored the blocking mechanism of cooperation between universities and enterprises, and found that different types of barriers have an impact on the effect of cooperation experience, the range of interaction, and the trust between groups. The analysis shows that the experience of preferential cooperation reduces the obstacles related to guidance and enhances the degree of trust. At the same time, it implies that the range of interaction reduces the relevant guidance, but increases the obstacles related to transactions.

Ma Yongbin. (2010). The author points out that the network platform institutions of industry-university-research collaboration mainly appear in various links of scientific and technological development. Through the construction of various collaborative network platforms in physical or virtual forms, they can directly serve the economic and social development of the country and the region. Strategy can also save the transaction cost of seeking partners, thereby reducing the risk of identifying transactions.

Zhang Hao (2019) The author proposes a mechanism framework for integrating incentive mechanisms, property rights systems, investment and financing mechanisms, and human resource management systems in the process of integrating basic elements of innovation.

By constructing a theoretical model of the impact of social and management factors on collaborative innovation, we aim to study the formation pathways of the impact of collaborative innovation. Elaborated on the mediating function of organizational learning in the process of mechanism innovation affecting collaborative innovation effects.

Propose management strategies for China's university industry collaborative institutions in terms of institutional structure, system structure, and network management. The importance and possibility of promoting the coordinated development of university industry cooperation organizations were demonstrated, and corresponding measures were taken by university industry cooperation organizations from three aspects: system structure, institutional innovation, and institutional setting to solve the problems existing in the development of university industry cooperation organizations; In terms of institutions, it is necessary to provide development conditions, improve online communication, and cultivate learning awareness; In terms of specific operations, it is necessary to improve the structure of new elements, promote liquidity, and enhance complementarity.

Jia Wei (2021) Based on the analytical perspective of the collaborative governance model, the author establishes the logical structure and operation model of China's higher vocational education governance through a relatively mature coordinated management implementation model: the development and management of higher vocational education does not rely solely on politics, economy, society, Humanities and other external factors.Construct the multi-subject governance model, and focus on the analysis of the power operation relationship between multiple subjects, in order to form the operation mechanism of multiple management subjects. Establishing a diversified and dynamic higher vocational education coordination mechanism can place the issue of higher vocational education governance in a broader era and historical time and space for investigation, and better grasp its essence.Based on the initial conditions of higher vocational cooperation based on multiple governance subjects, the prerequisites for effective cooperation such as organizational incentive needs, power resource needs, and willingness to collaborate, it points out the establishment of a three-dimensional

subject interaction framework and internal cooperative governance model in vocational schools.Research on the foundation, elements, mechanism, framework and other fields of practical experience in the establishment of China's higher vocational education coordination and management mechanism. It advocates the formation of a three-dimensional subject interaction relationship among local government departments, industrial enterprises and vocational schools; it focuses on the design of the operating mechanism of collaborative management. Through the research on the operation mechanism of the existing model, discuss the coordination management operation mechanism of stakeholders and participants, establish the external management and internal management model of higher vocational education, emphasize the process design of coordination management, form a reasonable operation mechanism, and pass the mechanism Design and management mechanism innovation, providing an optimized way to coordinate management and operation mechanism.

Cooperation mode

Li Lianshui. (1998). divided the organizational mode of domestic university research cooperation and innovation into government driven mode, voluntary combination mode, contract connection mode and cooperative construction entity mode.

From the perspective of the combination of structure and function, Zhou Jingzhen et al. (2005). combined the development process of domestic university research cooperation, and divided cooperative innovation into six modes: Government commanded combination mode, government driven mode, enterprise led mode, University led mode, co construction mode and virtual mode.

Xu Guanyu. (2007). believes that taking the form of industry university research alliance is the best mode of university industry cooperation. The alliance can improve the performance of cooperation, obtain external economy, reduce transaction costs, and enhance technological innovation ability.

From the perspective of stakeholders, Chen Tao et al. (2012, p.14). From the perspective of stakeholders, the author discusses the interrelationships among stakeholders in China's current industry university research cooperation innovation, discusses the main ways and forms of industry university research cooperation innovation in Chinese universities, and proposes specific platforms for cooperative innovation, including science and technology research and development centers led by private enterprises, industry science and technology research institutes led by universities, and joint development projects led by local government departments Enterprise led joint technology transformation and transfer, as well as personnel training for school enterprise cooperation.

Fang Linyou. (2013). Commissioned research, technology transfer, commissioned guidance, training company personnel, joint scientific and technological research, joint training of undergraduate and postgraduate students, joint establishment of joint laboratories, technology investment, joint construction of technology centers, patent licensing, patent sales, joint construction of enterprise postdoctoral mobile stations, and Start a new business. According to the formal cooperative relationship of the agreement, the basic modes of cooperation between universities and industries are as follows: universities transfer patent rights, companies entrust development, cooperative application projects, joint establishment of laboratories, establishment of cooperation funds, establishment of industry funds, and establishment of industry-university-research strategic alliances , the establishment of university science and technology parks, the establishment of school-run industries, and the holding or equity participation of listed companies by universities.

John Gilmore. (1998). introduced the strategic management of cooperative relations through case research and theoretical analysis. Cooperation relations are one of the key factors for the success of the enterprise, and the success of the cooperative relationship requires many factors, such as corporate culture, goal consistency, and trust establishment.

Cai Jiandong. (2010). introduced the strategic management of cooperative relationships. Cooperation relations are one of the key factors for the success of the

enterprise, and the success of the cooperative relationship requires many factors, such as corporate culture, goal consistency, and trust establishment.

Xu Yonghua. (2016). discussed the restrictions and challenges facing cooperative relationship management, and proposed to break through these restrictions and methods. The author pointed out that the restrictions on cooperative relationship management come from various factors such as corporate culture, shortage of resources, and market changes. Through case analysis and theoretical research.

Wu Xueshi (2021) The system summarizes the analysis of the development experience of vocational education development in developed countries and the development of China's vocational education development. The academic community has gradually reached a consensus: Students cannot meet the current needs of economic and social development; in order to achieve the development of vocational education, they must change the role of enterprises in it, make them the subject of vocational education, and give full play to their main role.

Based on the connotation of the main body of school running and enterprise running schools, this study believes that the two main entities that have energy and initiative, vocational schools and enterprises -realize collaborative schools and depth under the conditions of reform and innovation of institutional mechanism reform and innovation. Participate in the entire process of professional talent training, that is, the design of vocational education teaching, the formulation of talent training plans, curriculum development, teaching materials construction, education management and other systematic activities. Functional subjects are going to legal status, that is, the double -subject school -enterprise cooperation in this study. It is worth noting that according to Marxist philosophical practice, the definition of the connotation of the subject- "the subject can only be a person engaged in practical activities." Therefore, in the final analysis, two types of subjects participating in the cooperation between dual -subject schools should be enterprise technical skills talents and managers, vocational school teaching staff and managers.

Wu Jihui (2021) Using the basic principles and methods of educational ecology, an ecological system analysis framework for the research on the integration of production and education in vocational education is established. It is believed that "system integration" and "integration system" are not only the overall design logic of the industry-education integration strategy, but also the cognitive logic and implementation logic of educational practitioners.The pathogenesis, development mechanism, and steady-state mechanism of the integrated ecosystem of production and education in vocational schools are discussed. The emergence of the integration of production and education is firstly the result of the joint influence of the internal forces of the fusion subject and the pressure of the external environment—the "absence" and "filling" of the ecological niche are the logical starting point for the development of market entities, and they are also the result of the development of the integration of production and education. Basic kinetic energy; technology driving force, industry pulling force, resource pressure, government driving force, humanistic guiding force, etc. form the external environmental pressure for the integration of production and education.The goal of "moderate integration" was clearly put forward, and an evaluation index system for the integration of production and education was established. From the perspectives of integration and separation, the formation and decomposition (degradation) of substances, and the separation and integration of vocational education and professional society, the research proposition of "moderate integration" is clearly put forward and clarified.The ecological countermeasures to promote the integration of production and education in vocational schools are studied. Through the analysis of the ecological mechanism and the conclusion of the actual measurement of the integration of vocational education, industry and education, and according to the logic of establishing and cultivating the integrated ecological system, the following countermeasures are suggested: give play to the characteristic functions of market players such as local governments, industries, and higher education, and establish a vocational education industry. Education integration ecosystem; cultivate students' ecological environment from the four aspects of perfecting laws, resource delivery systems, building data platforms, and integration of cultural cultivation; improve the ecological structure from three aspects: project composition, main body structure, and regional composition; from the target

ecological type, The three levels of school-running ecology and education ecology enrich the ecology of combining production and education.

Jiang Qi(2014) Research on the joint legal guarantee system of German vocational schools and schools. On the basis of summarizing the relevant laws and regulations contained in the German vocational school, the legal guarantee system for school-enterprise cooperation of the German vocational school is outlined. Starting from the German Vocational Education Law, the legislative history, process, scope of application, article structure and other contents are analyzed, especially the specific content of school-enterprise cooperation is reviewed.

Finally, focusing on the relevant legislation of school-enterprise cooperation of the German local government, the legislative requirements on school-enterprise cooperation in the 16 federal school laws of Germany are comprehensively summarized and sorted out, and the current situation and characteristics of school-enterprise cooperation in Germany are studied.The organizational structure and working methods of school-enterprise cooperation in German vocational schools were expounded. German vocational education school-enterprise cooperation is carried out in a certain social structure, Litong describes the social structure of cunning enterprise cooperation as the main line, shows the overall social structure of German school-enterprise cooperation from country to region, and focuses on commenting on the current situation and problems between German industry institutions and school-enterprise cooperation.A review of the joint school-enterprise action plan in Germany.

The mechanism must be checked in practice and the construction effect is not sound. Starting from the four major action plans of school-enterprise cooperation in vocational education in Germany, this paper elaborates the process and process of the promotion of the plan, and reveals the latest trend of school-enterprise cooperation in vocational education in Germany.

Kang Peng (2014, P.4) Universities and industry are the most important innovation subjects in the regional innovation system. The University cultivates talents, inherits knowledge, and innovates technology. Industry is the source of

innovation, providing direction and financial support for innovation. Universities and industries each have numerous innovative resources and have their own characteristics in terms of innovation capabilities. With the development of economy and society and the increasing difficulty and intensity of innovation, cooperative innovation between universities and industry has become one of the important forms of innovation.

Cooperative innovation between universities and industry can effectively promote the development of universities and industries, and is the core of building a regional development system that meets the needs of regional economic development. In the context of regional innovation system, the theory and method of system coupling are introduced, and the method of organically combining theoretical research and experimental analysis, quantitative research and qualitative analysis is organically combined to carry out research and systematic analysis of university-industry collaborative innovation from the perspective of system coupling.

The evaluation method system of university-industry cooperative innovation coupling degree is designed, and the coupling degree of university-industry cooperative innovation is defined as a comprehensive measure of coupling coordination degree and coupling tightness, and the grey correlation method and linear weighting method are used to reflect the coupling of university-industry cooperative innovation.

In summary, The cooperation model refers to a cooperative relationship and cooperation method formed by different subjects in a certain field, guided by common interests and goals. It refers to the form of cooperative relationships, the purpose of cooperation, the distribution of interests, and the management of the cooperation process. It is usually found a optimal solution with the joint efforts of both or more parties to achieve the purpose of cooperation. The cooperation model can be regarded as a tangible or intangible framework. It stipulates the rules, principles, processes and procedures that all parties should follow in the process of cooperation, and aims to achieve the common interests of all parties. The cooperation model plays an important role in achieving a win -win situation,

optimizing resource allocation, and enhancing overall competitiveness. It is also a powerful promotion factors that promote public entrepreneurship and innovation.

Collaborative innovation mode

Hongyinxing. (2015). In his monograph "Research on Industry-University-Research Collaborative Innovation", he pointed out that industry-university-research collaborative innovation does not only refer to the tripartite cooperation between companies, universities and scientific research institutions, but also refers to the development of the industry, the coordinated integration and integrated development of scientific research and talents from a macro perspective. "Learning" does not only mean schools, but also includes many scientific research institutions, school-run companies and university science parks. "Industry" does not only refer to small and medium-sized enterprises, but more importantly, industries, industrial chains, industry gathering areas, etc., and also includes a series of intermediary organizations and production-oriented service enterprises with high correlation with the industry. Therefore, industry-university-research cooperation innovation pays more attention to the innovation cooperation between academia and industry from a macro perspective.

Wang Danxia. (2020). In his monograph "Research on Industry-University-Research Collaborative Innovation under the New Economic Normal", he made a systematic demonstration of the mechanism of industry-university-research collaborative innovation. From the aspects of industry-university-research collaborative innovation model, domestic industry-university-research cooperation system, industry-university-research cooperation innovation network, and domestic and foreign scientific research cooperation innovation development status, the operating mechanism of industry-university-research innovation network is systematically analyzed. The promotion effect of the system innovation model on the development trend of high-tech industry.

Based on the perspective of comprehensive innovation management, Zheng Gang et al. (2006). The coordination of various basic elements in the innovation

process, such as technology, strategy, organization, culture, system, market and other important basic elements, is studied, and the important concept of comprehensive coordination of innovation elements is given.

Xu qingrui et al. (2004). pointed out that there are mainly innovations in technology, strategy, organization, culture, system, market and other elements within the enterprise. In addition, raoyanting (2012, p.25). believes that the collaborative innovation of industry, University and research emphasizes the integration of multiple organizations and various elements, and the process of in-depth cooperation. There is not only the collaborative cooperation of innovation subjects, but also the coordination and integration of innovation objectives, organizations, systems and environment.

Zhang Xuewen. (2013). The new mechanism logic of industry-university-research cooperation development is studied, and it is believed that the logic comes from the heterogeneity of knowledge, the common material characteristics of knowledge, and the research of innovation mechanism.The principle of industry-university-research collaborative innovation from the perspective of open science is to pay the company to the government, and the government will allocate resources and support the public research and development of the university, the university can find the priority, and can get the return of academic reputation to provide professional knowledge to the company, and the company can also reasonably absorb public scientific knowledge, so as to carry out industrialization.

Caiwenjuan and Chen Liping. (2007, p.27). found through empirical research that the structural dimension, cognitive dimension and relationship dimension from the perspective of social capital jointly promote the connection of industry university research collaborative innovation network and the generation of innovation effect. The three elements are conducive to enhancing the innovation ability of cooperative network, further promoting regional technological progress and industrial structure upgrading, so as to form an innovation region with sustainable innovation ability.

The effective operation of collaborative innovation should rely on the establishment of new organizations. At present, China is accelerating the construction

of collaborative innovation platforms. First, establish organizations for major scientific and technological projects or major projects; The second is to build a comprehensive innovation platform for industrial technology innovation and industrial technology R & D institutions and industrialization supported by the national government.

Wu Yue. and Gu Xin. (2012). From the perspective of the conditions of knowledge collaboration, the three steps of preparation, operation and termination are summarized, and the knowledge collaboration process mode of industry-university-research cooperation innovation is established, and the key links in the process are explained. Then, the reasons for the influence of knowledge synergy in industry-university-research cooperation and innovation are analyzed from four aspects: environmental factors, willingness to cooperate, collaboration mechanism and knowledge difference, and the structural model of the role of various factors is formed.

Qiu Bizhen, (2020) The establishment of a collaborative innovation center for colleges and universities is a major measure to promote the construction of "first-class universities" and "first-class disciplines" in the world, and to further promote China's innovation-driven development strategy. The prerequisite and basis for establishing a university cooperative technological innovation center is to select qualified partners, and the key is to establish a cooperative technological innovation operation mechanism that adapts to it. According to the analysis of the current operation status of the National University Coordinated Innovation Center, the lack of coordination and complementarity among the collaborative subjects of coordinated innovation, and the lack of depth and effectiveness in coordinated innovation are quite common. In the current research, there is relatively little discussion on the cooperation selection mechanism in the early stage of the establishment of the collaborative innovation management center of colleges and universities and the main body cooperation mechanism in the later stage, and there is not enough discussion on how the collaborative innovation system and mechanism of colleges and universities can deal with the complex system on the network. Taking the cooperative subject of the collaborative innovation center of colleges and universities as the main research object, it conducts in-depth research on the

cooperative selection decision-making of the collaborative innovation center of colleges and universities and the cooperation system between the subjects. Taking the joint subject (cooperation) of the collaborative innovation center of colleges and universities as the main research object, taking the core value of the collaborative innovation ability of colleges and universities as the main research logic starting point, according to the "cooperative decision-making of the subject - the design of the subject cooperation mechanism - the performance evaluation of the subject cooperation - the subject cooperation Based on the research idea of "relationship development", and based on the relevant theories of network organization and systematics, it puts forward the basic countermeasures and policy suggestions for strengthening the social development of the collaborative relationship between the subjects of the collaborative innovation center in colleges and universities.

Li Xia. (2021) Discuss typical topics based on the development of enterprises and environmental protection, from the perspective of macro and micro interactions, put industry-university-research institutions in the external environment to study the power mechanism and methods of the external environment and the development of industry-university-research cooperation. First of all, according to the research problems of industry-university-research cooperation innovation and dynamic mechanism in the field of large environment, according to the theory of large system dynamics, multi-center governance theory and mechanism theory, an analytical framework of "idea-system-behavior" is established. Then, through the "idea-system-behavior" research framework, focusing on the order of the policy environmental protection field, corporate environmental protection field and community environmental protection field, respectively, the innovation power of industry-university-research cooperation in the environmental protection field is established Theoretical model of the mechanism, and conducted empirical experiments through the case study method, clarified three dynamic mechanisms of command-control mechanism, contract-interactive system and relationship-matching system in different environmental protection fields. Thirdly, expand the research problem to the boundary of heterogeneous space, and analyze the typification of the innovation model of industry-university-research cooperation. Specifically, starting from the

perspective of configuration, with the differential order of the mechanism as the main observation focus, the research proposition of the innovation model of industry-university-research cooperation in the space boundary is determined, and the experimental test is carried out through qualitative comparative analysis methods. Discuss the model and policy approach of industry-university-research cooperation development. With regard to the coordinated innovation development of China's industry-university-research institutes and the decoupling of the environment, opinions on the innovative development of China's industry-university-research institute cooperation are given from the perspective of order optimization. The first is to optimize the multi-value governance concept and instrumental governance concept in the space; the second is to enhance the coordination of the horizontal dimension of enterprise development in the two aspects of horizontal cross-departmental cooperation and vertical central-local cooperation; the third is to combine policy encouragement, market Encourage the self-development of industry-university-research institutes and strengthen the endogenous motivation of the subject of collaborative innovation; Fourth, promote the social link of resources from the perspective of internal and external relationship networks and sustainable development of industry-university-research institutes.

Ma Yanqiu. (2009) The basic architecture of the platform was analyzed from the aspects of basic objectives, formation principles, hierarchical structure, collaboration model, organizational structure and constituent elements of the platform. Using the method of physics force analysis, analyze and study the force status of the platform, various factors affecting the operation of the platform and the operation rules of the platform; According to the key issues affecting the operation efficiency of the platform, the basic structural model of the platform operation mechanism is established, and it is believed that the operation mechanism of the platform is divided into the platform promotion mechanism to improve the operation efficiency and the coordination and management mechanism of the network platform to reduce the operation obstacles. According to the dynamic characteristics and problems in platform operation, the content of platform promotion mechanism based on operation power is given, and the dynamic

evaluation index body and evaluation method of the platform are studied, and the incentive problem in platform operation is studied. According to the key resistance factors in the operation of the platform, the concept of network platform coordination mechanism based on operation obstacles is proposed, and the communication synergy and revenue distribution problems in the operation of the network platform are studied.

Management system

University-industry collaboration from the perspective of "institutional view" focuses on what rules the collaboration adopts, the relationship between the subjects of the collaboration, and the contractual arrangements for the collaboration. The basic principle of "shared benefits, shared risks, complementary advantages, win-win and mutual benefit" is the starting point for setting up the university-industry collaboration mechanism. Therefore, collaboration should connect the university and industry circles through government guidance, and encourage all parties to innovate together Activity.

Su Jingqin. (1998). pointed out The coordinated development of industry, university and research is based on the application of new ideas, new technologies, new processes, new systems and new fields. The institutional impact on school-industry cooperation is reflected in two aspects: the macro-system environment and the micro-system design.

The empirical data show that the level of enterprise-university-research collaboration and the level of the government environment play an important role in the choice of the company's industry-university-research collaboration method. The country also established the "Bayer-Dole Act", which greatly increased the enthusiasm of companies to increase investment in scientific and technological research and implement technological industrialization, and created a precedent for the policy environment of technological innovation in the United States.

Wang Zeshan. (2006). the basic concept of the management system, analyzed the constituent elements and implementation conditions of the management

system. At the same time, it discussed the difficulties and challenges of the management system in practice applications in detail, and proposed targeted solutions.

Liu Hongyu. (2008). explained the application of the management system in enterprise production and quality management. Through example analysis, the role and strategy of realizing the effective operation of the management system in the aspects of the management system in monitoring production processes, improving product quality, and ensuring safety of production safety have been explored.

From the perspective of modern enterprises management, Liu Yongshan. (2011). studied various forms and implementation methods of the management system. The author analyzes the advantages and disadvantages of the "hard" management system (such as institutional documents, rules and regulations, etc.) and "soft" management systems (such as training, evaluation, feedback, etc.), and propose a strategy of effectively integrating two management systems.

Yang Guoxian. (2009). introduced the steps and methods of the design and improvement of the management system, and provided multiple examples to explain in detail how to formulate and implement the management system, evaluate and improve the management system. It emphasizes the importance and role of the management system, pointed out the common problems and challenges in the design and implementation of the management system, and proposed a response strategy.

Song Wen. (2014). explored the impact and role of the management system on organizational performance through the study of practice cases. The management system has been proposed three ways of role in organizational performance: standardized behavior, optimizing resource allocation, and improving the adaptability of the organization, and analyzed the key issues in the design and implementation of the management system in detail.

Liu Ying (2012,) focuses on the application of the management system in human resource management. The author explores the implementation measures of the management system from the aspects of employee recruitment, training,

incentives, and evaluation, and emphasizes the close relationship between the management system and human resource management. The book provides practical cases and suggestions, providing guidance for enterprises to achieve human resources management goals.

Zhou Jing. (2015) As an important path and institutional arrangement for the development of vocational education in the country, school-enterprise cooperation has always been highly valued. At present, school-enterprise cooperation is widely carried out in the field of vocational education. However, because schools and enterprises are in different enterprises and their development orientations are different, school-enterprise cooperation is unbalanced, not deep, and imperfect. The key to solving this problem is to improve and improve the school-enterprise cooperation mechanism in the field of vocational education. Experts and scholars have carried out in-depth research on the school-enterprise cooperation mechanism of China's vocational education from various perspectives.Research on the establishment of school-enterprise cooperation mechanism in Chinese vocational schools. Introduced the effect of the school-enterprise cooperation mechanism of vocational education in China, and then focused on analyzing the "problems and causes". At present, the main problems faced by the school-enterprise cooperation system in the field of vocational education in China include: the formal management system of school-enterprise cooperation is not perfect; the informal system of school-enterprise cooperation is not enough; the implementation system of school-enterprise cooperation is not perfect, etc. The main reasons for the disadvantages are: lack of and unbalanced institutional reform forces; limited rationality of institutional subjects; institutional obstacles to cross-border management; lack of market regulation mechanisms; unsound supporting mechanisms, etc. It clearly puts forward measures and suggestions to promote and improve the school-enterprise cooperation mechanism in the field of vocational education in China. Establish a value system for vocational education school-enterprise cooperation management; establish rules and regulations for vocational education school-enterprise cooperation; improve the government organization and management system for vocational education school-enterprise cooperation; establish a government

procurement service mechanism for vocational education school-enterprise cooperation; establish China's vocational education school Social and cultural institutions that cooperate with enterprises; establish relevant systems for vocational education school-enterprise cooperation mechanisms.

Wu Xueshi (2014) Based on the empirical research results, a suggestion is put forward for the establishment of a dual-subject school-enterprise cooperation mechanism in China's vocational education: in order to improve the execution of the dual-subject school-enterprise cooperation system, it is necessary to: optimize the layout of vocational education disciplines and the degree of coordination of the industrial structure, and improve the effectiveness of system implementation; The governance structure of the organization is improved to improve the implementation of the system; the dual-subject school-enterprise cooperation and collaborative governance system is built to improve the implementation of the system; the dual-subject school-enterprise cooperation collaborative operation platform is built to reduce the difficulty of system implementation. In order to improve the quality of the dual-subject school-enterprise cooperation system, it is necessary to: establish a vocational education professional education committee to coordinate the responsibilities and rights of each subject; establish a vocational education intermediary service agency to reduce transaction costs and improve the continuity of the system; improve the top-level design of vocational education and improve the school-enterprise Cooperation rules and regulations, improve the stability of the dual-subject school-enterprise cooperation mechanism. In order to enhance the cognition of the dual-subject school-enterprise cooperation system, it is necessary to: improve the awareness of the subject of the system to the subject of the enterprise, and enhance the awareness of the content of the system; scientifically and rationally select enterprises that integrate production and education to increase the recognition of enterprises.

Yang Hongquan. (2013) China's vocational education school-enterprise cooperation has gradually been stipulated through the government's formulation of regulatory texts, but it faces many problems, one is the failure to establish a vocational education school-enterprise cooperation management model guaranteed

by the legal system; Second, there is no sound system of laws and mechanisms for school-enterprise cooperation in vocational education; Third, the basic problems of school-enterprise cooperation in vocational education are not clearly divided; Fourth, there is currently insufficient support policies for the law on school-enterprise cooperation in vocational education; Fifth, the company's responsibilities and rights in vocational education school-enterprise cooperation should be gradually clarified; Sixth, the current laws and regulations do not provide for responsibilities and legal sanctions; Seventh, there is no strict job qualification management system and employment access management system; Eighth, the supervision of the enforcement of vocational education laws and regulations is not perfect, and the ninth is that there is no legal aid organization for school-enterprise cooperation in vocational education.It is proposed to establish a vocational education school-enterprise cooperation management model guaranteed by the legal system with Chinese characteristics, establish a sound system of laws and regulations for vocational education school-enterprise cooperation, divide the concept of school-enterprise cooperation in vocational education school-enterprise cooperation, divide the subject of vocational education school-enterprise cooperation, clarify the scope and level of laws and regulations of the legislative power of vocational education school-enterprise cooperation, clarify the support policies of China's vocational education school-enterprise cooperation legal system, and determine the specific types and rights of the rights subjects of vocational education school-enterprise cooperation in China. Safeguard the content of the legal system of school-enterprise cooperation in vocational education to protect the interests of the educated, clarify the legal responsibilities and legal sanctions of the law on school-enterprise cooperation in vocational education, improve the management system of vocational education qualification certificates, standardize the employment access mechanism, improve the supervision system of the legal system of school-enterprise cooperation in vocational education, and discuss how to build the legal system of school-enterprise cooperation in vocational education from multiple perspectives, such as how to build a legal system system for school-enterprise cooperation in vocational education in China.It is proposed that China intends to form a basic law and separate regulations that include vocational education vertically (enactment of the law on

vocational education, promulgation of the law on the promotion of school-enterprise cooperation in vocational education, relevant government systems for school-enterprise cooperation, institutional system for school-enterprise cooperation in vocational education, regulations and regulations on the promotion of regional school-enterprise cooperation in vocational education, and rules and regulations related to school-enterprise cooperation in vocational education; Horizontally, it involves relevant policies, implementation rules, and the legal system of school-enterprise cooperation in vocational education with comprehensive connotation and clear levels of laws on school-enterprise cooperation in various industries.

Context of Vocational University

Vocational University is a kind of undergraduate education institution that provides students with professional training and academic knowledge. Such universities usually provide courses of strong practical and professionalism. YU, H. (2015). discussed the challenges and future development trends facing vocational undergraduate education. China's vocational undergraduate education has started late, but has developed rapidly in recent years, and has become an important part of China's higher education. Vocational undergraduate education mainly focuses on the training of students' vocational skills and practical ability, and is closely linked to enterprises and industries, and two -way learning and talent training cooperation. Looking back on issues such as curriculum settings, evaluations, and teacher construction of vocational undergraduate education, and put forward suggestions for further strengthening the connection with higher education and standardization construction. China's vocational undergraduate education will continue to develop in the future and make positive contributions to China's economic development and social progress.

There are only two vocational undergraduates in Guangxi, namely Guangxi Agricultural Vocational and Technical University and Guangxi City Vocational and Technical University. The situation of 2 vocational universities is as follows:

Guangxi Vocational University of Agriculture

Guangxi Vocational University of Agriculture is approved by the Ministry of Education of the Department of Education. It is organized by the People's Government of the Autonomous Region. It is a public welfare second -class public institution managed by the Agricultural and Rural Department of the Autonomous Region. It is an independent public undergraduate -level vocational school. In accordance with the relevant provisions of the "Higher Education Law of the People's Republic of China", the school carried out vocational education activities based on full -time undergraduate vocational education, adult education, international student education, and vocational skills technology training.

The school is a university formed by the merger and transfer of Guangxi University School of Arts and Sciences, the Guangxi Agricultural Vocational and Technical College and the Guangxi Institute of Animal Husbandry. The School of Literature and Sciences, Guangxi University was founded in 2002. Relying on the deep cultural heritage, rich teaching resources, and strong discipline basic schools of Guangxi University, and taking the road of characteristic development, it has become a multi -disciplinary of science, work, scriptures, management, and literature. Coordinated development of applied general undergraduate colleges, a number of autonomous region -level first -class undergraduate construction points, specialty majors, and first -class courses were built, ranking among the best in Guangxi Independent College. For its own responsibility, work hard to build a school administrative model of school administrative enterprises that work, research and development, training, and management, and cultivate practical technical and technical talents that are required to adapt to the first line of agricultural production, construction, management, and service. The pilot unit of modern apprenticeship talent training, selected for the National Agricultural Rural Ministry, and the Ministry of Education's 100 nationwide "Rural Revitalization Talent Training High -quality School". High -level higher vocational schools and high -level professional construction plan construction units. The school has been rated as an advanced unit of employment and entrepreneurship in general college graduates in Guangxi for 17 consecutive years. Institute, Guangxi livestock and poultry breeding technology R & D talent small highland, Guangxi post -doctoral innovation practice base, and strong scientific

research strength. There are 15 national and provincial scientific research platforms including the Federation of Federation Engineering Technology Research Center of the Ministry of Agriculture. There are 18 scientific and technological awards such as the Guangxi Science and Technology Progress Award, including 2 first prizes.

The school has two campuses. The address of the West Campus is 176 East Road, Nanning University, Guangxi.

The school currently has 36 undergraduate majors and 34 vocational majors. As of August 2022, there are 22,621 students in the school.

With the correct leadership and strong support of the Party Committee and People's Government of the Autonomous Region, the school will implement the fundamental tasks of the people in the Ethics people, focusing on cultivating high -end technical and skillful talents with "agriculture, rural areas", "The" Strong features "vocational undergraduate universities have a new model of running a school, and they have been built into high -level undergraduate level vocational universities with outstanding advantages and distinctive characteristics to make new contributions to the construction of magnificent Guangxi and re -rejuvenating dreams.

Guangxi Agricultural Vocational and Technical University has 1 international industry cooperation and 3 domestic industrial colleges, one of which is the academy of the autonomous region -level industry. Details are as follows:

1) China University of Agricultural Vocational and Technical and Technology and Laos National Agriculture and Forestry and Rural Development Research Institute co -established China -Laos' cooperative crop species test stations. It is the first excellent variety test station in China built in ASEAN. 40 hectares started in 2013.

2) Guangxi Vocational University of Agriculture and Guangxi Yangxiang Co., Ltd. jointly build the Yangxiang Institute of Industry.

3) Guangxi Vocational University of Agriculture and Guangxi Jinsui Agricultural Group Co., Ltd. jointly build the Jinsui Agricultural Industrial College.

4) Guangxi Vocational University of Agriculture and Guangxi Agricultural Reclamation Mingyang Starch Development Co., Ltd. co -build the School of Food Engineering Industry.

Guangxi City Vocational University

Guangxi City Vocational University was established in 2005 and carried out the cooperation of production, learning, business, and research schools. As of March 2022, the school has the Chongzuo Campus and the Airport Campus, covering an area of 3348.11 acres, a total value of teaching instruments and equipment of 360 million yuan. There are 810 part -time teachers, with more than 30,000 students in the whole daily.

Guangxi City Vocational University was established in 2005. The school launched a strong production, academic, business, and research school -enterprise work with deep cultural heritage and strong social responsibility to provide students with a broad and entrepreneurial world. As of March 2022, the school has Chongzuo Campus and Airport Campus, covering an area of 3348.11 acres, a total value of teaching instruments and equipment of 360 million yuan. At present, the school has a total of 1,620 full -time teachers, 810 part -time teachers, more than 30,000 full -time students, 4,167 computers for teaching; 2,3600 multimedia and language laboratories; 2.2274 million libraries; electronic books 178.16 Thousands of books, 101.85 books. The school is beautiful, the national AAA -level tourist attraction, the first 5G campus in Guangxi, 39 in the school training base (center) in total, a total of 416 schools of production and education cooperation units; Vocational Education Group, which has a key laboratory of Guangxi University Robotics, also has a modern international logistics comprehensive training base, unique national trade training base with unique border trade characteristics, and advanced new energy vehicle sharing parks. Grow up and employment better. The employment rate of graduates is more than 96%each year.

The school always adheres to the educational concept of "student -centered", and uses the training of high -level technical and skilled talents as the purpose of running the school. Promote the use of the "five innovation" concepts to cultivate

talents with humanistic literacy and scientific and technological spirit, and advocate teachers and students to adapt to social and industrial hotspots with sensitive thinking. The school follows vocational attributes, undergraduate standards, integration of production and education, win -win schools, innovation -driven principles, accurately grasp the era of vocational education, establish modern undergraduate vocational education The talent view of innovation and humanities "and carry out pilot work with this as the core. We know more about sensibility and rationality, work with diligence and understanding, and be like -minded education methods of teachers and students.

We have a beautiful campus, and we also have campus songs that can sing our spirit and ideals, youthful and philosophical thoughts. Based on the people of Lideshu, the school put forward the requirements of "three love, three schools, and three disputes" of professional talents to promote the coordinated development of students' "skills+knowledge+cultivation", to plant family conditions and social responsibility, help students deducting well The first buckle in life, trying to lay the foundation for everyone's "life". Even though we know that the ideal is far away, but we will persevere and make the school into culture, ideology, application, and creation. The well -known and influential country in China.

Scientific running pattern. The school has 10 secondary departments including the School of Automobile Engineering, the School of Construction Engineering, the School of Intelligent Engineering, and the School of Education. Logistics management, including 23 undergraduate majors; 53 majors including automobile manufacturing and experimental technology, preschool education, furniture design and manufacturing, hotel management and digital operations, etc., gradually constructing engineering, economics, management, art, education, education, education, education, education Such a coordinated disciplinary system.

Social reputation. The school has won the "National Green Model Unit", "Promoting Contribution Award for Private Higher Education Development", "Civilized Unit in the Autonomous Region", "Safety and Civilization Campus of the Higher School of Guangxi Zhuang Autonomous Region", "Harmonious School in Autonomous Region", "Advanced Unit of Student Funding Work in the Region" " "Advanced Unit of Student

Military Training", "Demonstration Standardized Student Apartment of Higher Schools of Guangxi Zhuang Autonomous Region", "Advanced College of Logistics Work in Guangxi University", "Guangxi Forest Campus", "Chongzuo City Forest Forest Park" and other honorary titles; "The two new organization party building demonstration units".

Guangxi City Vocational and Technical University has 4 domestic industrial cooperation, one of which is the first batch of high -vocational education demonstration industry colleges in Guangxi.

1) Guangxi City Vocational and Technical University and Shandong Baiku Education Technology Co., Ltd. co -build the School of Intelligent Construction Industry.

2) Guangxi City Vocational and Technical University and SAIC -GM Vehicle Co., Ltd. jointly build the School of Automobile Industry.

3) Guangxi City Vocational and Technical University and Beijing Jingdong Qianshi Technology Co., Ltd.

4) The Mahogan Institute of Hangwan Industry of Guangxi City Vocational and Technical University won the first batch of higher vocational education demonstration industry colleges in Guangxi.

Related Research

Li Zijing. (2019). discussed the path of integration of production and education, proposed a mechanism for improving the integration of production and education, strengthening the policy guidance of the integration of production and education, the docking of education and teaching resources and industrial needs Suggestions from the cultivation of talents in Xuexue, research and creation, are designed to provide reference for promoting the integration of production and education.

Zhang Ping. (2018). analyzed the connection between the integration of production and education and the innovation and entrepreneurship education of college students and discussed the impact and promotion of the integration of

production and education on college students' innovation and entrepreneurship education. Through the integration of production and education, it can improve the quality and practical ability of college students.

From the perspective of education and industry integration, Yao Yanfei. (2019, p.58). discusses the path selection of the integration of education and industry. It is necessary to optimize measures such as the environmental and education integration policy environment, build a reasonable integration mechanism for production and education, and strengthen the in-depth docking of education and industry to achieve cooperative development of education and industry.

Yang Xingwei. (2018). studied the problem of technology transformation from universities from the perspective of integration of production and education. It should be strengthened to cooperate in industry-university-research, build a technical transformation platform, and improve the technical transformation capacity and level of universities.

For example, Li Yongmei. (2020). was used as an example to explore the industry -oriented higher vocational education practice. By promoting industrial competitions, establishing industry-university-research cooperation agencies, and opening industrial-oriented courses, we can realize close connection with high vocational education and industry.

Starting from the background of the integration of production and education in Zhou Fang. (2017). it discussed the innovation and development of higher vocational education. The integration of production and education should be used to promote the integration of resources inside and outside the school, and to improve the quality of teaching and the competitiveness of student employment.

Zheng Shul. I. (2019). discussed the problem of vocational education and talent training from the perspective of the integration of production and education. It should strengthen the cooperation of industry-university-research and research, establish a practical teaching base, open courses closely related to the industry, and improve students' comprehensive quality and professional ability.

From the perspective of optimization and development, Liu Kun. (2018, p.38). discussed the issue of integration of higher education and education. Policies and mechanisms should be improved, the level of industry-university-research cooperation, strengthening practical teaching links, and promoting the deep integration of higher education and industry.

Chen Yuer. (2018). discussed the issue of higher education and entrepreneurship education from the perspective of the integration of production and education. By establishing corporate incubation bases, introducing venture capital books, and strengthening school communication and industrial communication, we can realize the in-depth integration of higher education, innovation and entrepreneurship education and industry.

Guo Da(2017) The author pointed out that with the drastic changes in the world's industrial competition pattern, industrial development around the world has shown a significant trend of industrial clusters, industrial integration, and industrial migration, and will continue to enhance its own industrial strength. Higher vocational schools conform to the development trend of the industry and the overall development of the industry, and are the basis for the sustainable development of enterprises. Clearly put forward the strategic choice to promote the coordinated development of higher vocational education and industry. First of all, higher vocational education should change its composition based on industrial clusters. Establish higher vocational education clusters, establish a diversified main structure; establish higher vocational education discipline professional clusters, and establish a clustered discipline structure; form a base-based "headquarters-base" school-running form space structure. Second, higher technical vocational schools should adapt to the development of the industry and innovate the development model. Grasp the school-enterprise integration system and promote the development of school-enterprise integration; build a professional dynamic adjustment system, laying the cornerstone of school-enterprise integration; vigorously cultivate compound management talents, and create the core elements of school-enterprise integration. Third, higher vocational schools should serve the global industrial transfer and adjust the development ability of enterprises to serve the industry. Cultivate and serve the

development of multinational enterprises in developed countries, create professional green service functions, and build a four-dimensional interactive business international business outsourcing function model of "institution-company-industrial park-enterprise". Fourth, higher vocational education should be guided by industry competitiveness to enhance its own strength. Higher vocational education should support the strategic transformation of enterprises by joining the knowledge strategic alliance; connect the industrial chain with professional technology to promote the development of related and complementary industries; cultivate an effective management mechanism for the creation of advanced product elements; adopt four measures of the demand-driven development model, and finally Under the guidance of industry strength, effectively enhance the strength of enterprises.

Chapter 3

Research Methods

This research focuses on industry cooperation of vocational university in Guangxi. To study the current situation of industry cooperation of vocational university in Guangxi, develop and evaluate the adaptability and feasibility of administration strategies in industry cooperation of vocational university in Guangxi. The researcher conducted the research as the following procedures:

1. The population
2. Research Instruments
3. Data collection
4. Data analysis

The population

The Population

The population of this research were mid-level administrators from vocational university in Guangxi, which including 50 mid-level administrators in Guangxi vocational University of Agriculture, and 45 mid-level administrators in Guangxi city vocational University, totaling 95 people. At present, there are two vocational universities in Guangxi, namely Guangxi Agricultural Vocational and Technical University, and Guangxi City Vocational University. Distributed in two cities including Nanning and Chongzuo.

Table 3.1 Number of populations

No	University	City	population
1	Guangxi Agricultural Vocational and Technical University	Nanning	50
2	Guangxi City Vocational University	Congzuo	45
	Total		**95**

Research Instruments

Questionnaire

which can be divided into 2 parts, as follows:

Part I: Personal Information is in the form of a check list, which is gender, age, education, title level and number of years in management.

Part II: According to the development status of Guangxi Vocational University and industrial cooperation, the questionnaire adopts the form of a 5-level evaluation scale, which are extra high, high, average, low and extra low, allowing respondents to select only one Level. IOC value is equal to 1.

The content of the questionnaire mainly focuses on the management status of the cooperation between Guangxi Vocational University and Industry. According to the research system of cooperation in the variable industry, cooperation resources, cooperation models, and collaborative innovation model management and management systems. design the research survey. Through the questionnaire, the current management status of Guangxi's vocational universities in industrial cooperation is obtained to facilitate the next research work.

The content and problems are arranged according to the order of research factors: in terms of Cooperative resources, cooperation models, cooperative innovation model management, and management system.

Interview form

According to the analysis of the Administration Strategy of vocational universities and industrial cooperation in Guangxi area

Focusing on the four aspects of design interview forms, including Cooperative resources, cooperation models, collaborative innovation model management, and management system, the research and use of researchers specifically designed for this research interview form, and presents the interviewees through structural interviews through structural interviews. The information provided isthe population of this study. Qualification conditions of interviewees: 1) middle -level leaders; 2) work for more than 10 years.

Evaluation form

According to the Administration Strategy of vocational universities and industrial cooperation in Guangxi, the researchers set up an evaluation table, and studied the Administration Strategy of promoting vocational universities and industrial cooperation in Guangxi according to the current situation of the Administration Strategy of vocational universities and industrial cooperation in Guangxi, covering the data analysis and synthesis results of structured interviews with vocational university managers and senior managers of enterprises in Guangxi, and evaluated by experts.

Based on the evaluation form of the Guangxi Vocational University and Industry Cooperation, five experts are invited to evaluate. Evaluate the Administration Strategy of educational cooperation between Guangxi Vocational College and the industry.

Data Collection

Questionnaire

1. The researcher explains the samples participating in the research project and the guidelines for the Administration Strategy of Guangxi Vocational University and industry cooperation and facilitates the filling out of the questionnaire.

2. From September 1 to November 30, 2022, the investigators distributed the questionnaire and personally took it back.

3. Check the complete questionnaire to facilitate data analysis questionnaire in the next step.

Interviews

1. Summarize the analysis results of the Administration Strategy of Guangxi Vocational University and industrial cooperation.

2. Set up the qualifications of those who participate in structured interviews, including managers of educational institutions and senior managers of industries, and engage in vocational university education management.

3. Respondents are selected and meet the qualifications of Item 2), and the investigator invites respondents and respondents who voluntarily participate in the interview.

4. Conduct an interview according to the steps.

Data Analysis

Questionnaires

Before analyzing the data, the investigator checks the correctness and completeness of the questionnaire in preparation for the analysis of the data, and if the data is found to be conflicting or incomplete, the investigator will ask the respondent directly for more information. The investigator then creates a data file to store the variables used in the study, and when the data is ready, the researcher analyzes the data in two steps, namely preliminary analysis of the data and analysis to meet the purpose of the study. As follows:

1) Preliminary analysis of data, is an analysis to study the characteristics of each variable data, preliminary examination to analyze to meet the purpose of research statistics, statistical analysis can be divided into the following two parts, the preliminary data analysis of the sample and the use of packaging procedures for basic statistical analysis of variables, including the preliminary analysis of the sample data, this step of analysis is to understand the background of the sample and analysis, including the gender, age, education, title level, years of management of the sample. And by using frequency and percentage, basic statistical analysis of variables.

2) Analysis for research purposes, this step is the analysis to meet research purposes, for research purposes, this step of analysis is for the step to know the mean and standard deviation.

Statistics for data analysis

Statistics for data analysis, descriptive statistics. As follows:

1. Frequency distribution and percentage, used to analyze basic information about educational institutions and analyze information about respondents as a sample.

2. Mean analysis and standard deviation, which is used to analyze the management level of Guangxi Vocational University and industrial cooperation and analyze the adaptability and feasibility of the Administration Strategy of Guangxi Vocational University and industrial cooperation.

3.Trustness and validity test.The reliability is mainly used to measure the reliability and stability of the scale used. This study will use SPSS to test the four content cooperation resources, cooperation models, collaborative innovation models, and management systems of industrial cooperation research variables. This study has a good reliability of the measurement table when the measurement table is greater than 0.7, and the research tools are effective.

The validity test is whether the measurement tool is effective. This study has a good efficiency of the measurement table when the measurement table is greater than 0.7, and the research tools are effective.

Data interpretation

In the mean analysis of the Administration Strategy of Guangxi Vocational University and industry cooperation, the researchers

Defines criteria for data interpretation. As follows:

4.51-5.00	refers to	the highest level
3.51-4.50	refers to	high level
2.51-3.50	refers to	medium level
1.51-2.50	refers to	low level
1.00-1.50	refers to	the lowest level

To implement the adaptability and feasibility of the Administration Strategy of Guangxi Vocational University and industry cooperation, the researchers defined the criteria for data interpretation. As follows:

4.51-5.00	refers to	the highest level
3.51-4.50	refers to	high level
2.51-3.50	refers to	medium level
1.51-2.50	refers to	lowe level
1.00-1.50	refers to	the lowest level

Chapter 4
Results of Analysis

This research focuses on industry cooperation of vocational university in Guangxi. The objectives of this research were to study the current situation of industry cooperation of vocational university in Guangxi, develop and evaluate the adaptability and feasibility of Administration strategies in industry cooperation of Guangxi vocational university . The researchers presented the research results as the following:

Part I The analysis result about personal information of respondents, classified by gender, age, education background, title level, and work experience in administration

Part II The analysis result about the current situation of industry cooperation of vocational university in Guangxi. Presented by average and standard deviation

Part III The analysis result of interview contents about industry cooperation of Guangxi vocational university

Part IV The analysis result about evaluation of adaptability and feasibility of strategies in industry cooperation of Guangxi vocational university

Result of Data analysis

Part I The analysis result about personal information of respondents, classified by gender, age, education background, title level, and work experience in administration

Table 4.1 Personal Information

(N=95)

	Personal information	number of people	percentage
Gender	male	55	57.89
	female	40	42.11
	Total	**95**	**100**
Age	26 – 35 years old	10	10.53
	36 – 45 years old	37	38.95
	46 – 55 years old	35	36.84
	Above 56 years old	13	13.68
	Total	**95**	**100**
Education background	Bachelor's degree	20	21.05
	Master’s degree	73	76.84
	Doctor’s degree	2	2.11
	Total	**95**	**100**

Table 4.1 Personal Information

(N=95)

	Personal information	number of people	percentage
Title Level	Primary	0	0
	Intermediate	3	3.16
	Deputy high	70	73.68
	Senior	22	23.16
	Total	**95**	**100**
Work experience in administration	1 - 5 years	5	5.26
	6 - 10 years	15	15.79
	11 - 15 years	30	31.58
	16 - 20 years	35	36.84
	More than 20 years	10	10.53
	Total	**95**	**100**

According to Table 4.1 it can be found that most respondents were 55 males, accounting for 57.89%. 40 females, accounting for 42.11%. Most respondents were 36-45 years old for 37 people, accounting for 38.95%, followed by 46-55 years old, 35 people, accounting for 36.84%, and 10 people were 26-35 years old, accounting for 10.53%. Education background of most respondents were master's degree for 73 people, accounting for 76.84%, followed bachelor's degree for 20 people, accounting for 21.05%, and doctor's degree for 2 people, accounting for 2.11%. The titles level of most respondents were associate professors for 70 people, accounting for 73.68%., followed by professor for 22 people, accounting for 23.16%, and teaching level was 0 people. Work experiences in administration of most respondents were 16-20 years for 35 people, followed by 11-15 years for 30 people, accounting for 32.58%, and 1-5 years for 5 people, accounting for 5.26%.

Part II The analysis result about the current situation of industry cooperation of Guangxi vocational university

Presented by average and standard deviation

Table 4.2 Average and standard deviation of the current situation of industry cooperation of Guangxi vocational university in four aspects

(N=95)

The Administration Strategies in Industry Cooperation of Guangxi Vocational University	μ	σ	Level	Order
Cooperative resources	3.16	.67	medium	2
Cooperation Mode	3.04	.62	medium	3
Collaborative Innovation Model	3.02	.65	medium	4
Management System	3.20	.70	medium	1
Total	**3.10**	**.66**	**medium**	

According to Table 4.2, the current situation of industry cooperation of vocational university in Guangxi in four aspects was at the medium level (μ= 3.10). Considering the results of this research aspects ranged from the highest level to the lowest level were as follow: the highest level was management system (μ= 3.20), followed by cooperative resources (μ= 3.16), and collaborative innovation mode was the lowest level (μ= 3.01).

Table 4.3 Analysis of Cooperative resources

(N=95)

Cooperative resources	μ	σ	Level	Order
1. Government policy support	3.36	.63	medium	1
2. There are sufficient construction funds between vocational universities and industries	2.91	.62	medium	9
3. The distribution of interests between universities and industries	3.11	.64	medium	7
4. Management mechanism between university and industries	3.00	.65	medium	8
5. Industrial leaders participating in industrial cooperation enthusiasm	3.23	.63	medium	2
6. Channel for industrial cooperation funds financing	3.21	.70	medium	4
7. Teachers provide technical support for enterprises	3.23	.86	medium	3
8. Hardware with win -win cooperation	3.20	.63	medium	5
9. Have a strong concept of collaborative innovation	3.19	.69	medium	6
Total	**3.16**	**.67**	**medium**	

According to Table 4.3, the current situation of industry cooperation of vocational university in Guangxi in cooperative resources was at the medium level (μ= 3.16). Considering the results of this research aspects ranged from the highest level to the lowest level were as follow: the highest level was government policy titles (μ= 3.36), followed by the industry The enthusiasm of leadership participating

in industrial cooperation (μ= 3.16), and the minimum is sufficient funds between vocational universities and industries was the lowest level (μ= 2.91).

Table 4.4 Analysis of Cooperation Mode

(N=95)

Cooperation mode	μ	σ	Level	Order
1. Have a sound cooperation mechanism	3.09	.65	medium	6
2. Vocational universities and industries have a clear cooperation plan	3.23	.59	medium	1
3. division of labor between vocational universities and industries	3.22	.72	medium	2
4. Vocational universities can provide intellectual property for industries	3.19	.57	medium	3
5. Average distribution of economic benefits	3.05	.57	medium	7
6. universities, industry, government, and co-construction of industrial colleges	2.32	.47	lower	10
7. The industrial cooperation model of co -construction, sharing, and co -management	3.04	.77	medium	8
8. un universities provide patents for the industry and achieve results transformation	3.03	.55	medium	9

Table 4.4 Average and standard deviation of the current situation of industry cooperation of Guangxi vocational university in cooperative mode (Continue)

(N=95)

Cooperation mode	μ	σ	Level	Order
9. University can provide new technologies and new standards for the industry	3.14	.79	medium	4
10. with a business -led cooperation model	3.12	.68	medium	5
Total	**3.04**	**.62**	**medium**	

According to Table 4.4, the current situation of industry cooperation of vocational university in Guangxi in cooperative mode was at medium level (μ= 3.04). Considering the results of this research aspects ranged from the highest level to the lowest level were as follow: the highest level was vocational universities and industries have a clear (μ= 3.23), followed by a clear division of labor in vocational colleges and industries (μ= 3.22), and the college of universities, industries, governments, and co -construction of industrial was the lowest level (μ = 2.32).

Table 4.5 Analysis of Collaborative Innovation Model

(N=95)

Collaborative innovation mode	μ	σ	Level	Order
1. Vocational universities and industries have a collaborative innovation platform	3.09	.67	medium	4
2. Vocational universities and industries have clear strategic plans	3.11	.63	medium	3
3. Vocational universities provide innovative technical support for industries	3.14	.75	medium	2
4. Vocational universities and industries can support each other	3.25	.70	medium	1
5. The effect of collaborative innovation is good	3.08	.52	medium	5
6. Co-construction shared laboratory and training base	2.40	.63	lower	10
7. Detailed plan for regular communication with enterprises	3.08	.68	medium	6
8. Co-Construction Scientific Research Innovation Team	3.01	.64	medium	8
9. Have core technology research and development centers	3.02	.68	medium	7
10. With a reasonable collaborative innovation evaluation system	3.01	.62	medium	9
Total	**3.01**	**.65**	**medium**	

According to Table 4.5, the current situation of industry cooperation of vocational university in Guangxi in Collaborative innovation mode was at medium level (μ= 3.01). Considering the results of this research aspects ranged from the

highest level to the lowest level were as follow: the highest level was vocational colleges and industries can support each other at the highest level (μ= 3.25), followed by vocational colleges with innovative technical support for the industry (μ=3.14), and the minimum is the co -construction and shared laboratory and training base was the lowest level (μ= 2.40).

Table 4.6 Analysis of management system

(N=95)

Management System	μ	σ	Level	Order
1. Have a sound incentive system	3.11	.55	medium	10
2. Have a sound property rights system	3.14	.74	medium	9
3. A sound talent management system	3.23	.63	medium	3
4. Have a sound fund management system	3.31	.69	medium	1
5. Possessing talent capabilities to enhance internal learning systems	3.29	.77	medium	2
6. Have the management system of the School of Industry	3.20	.79	medium	5
7. Have a collaborative innovation platform management system	3.22	.70	medium	4
8. Laboratory management system with win-win cooperation and co - construction and co-management	3.15	.58	medium	8
9. With skill training and reward system	3.17	.75	medium	7
10. Innovative technologies, results conversion, and other related reward systems	3.19	.75	medium	6
Total	**3.20**	**.70**	**medium**	

According to Table 4.6, the current situation of industry cooperation of vocational university in Guangxi in management system was at medium level (μ= 3.20). Considering the results of this research aspects ranged from the highest level to the lowest level were as follow: the highest level was have a sound fund

management system (μ= 3.31), followed by possessing talent capabilities to enhance internal learning systems (μ= 3.29), and have a sound incentive system was the lowest level (μ= 3.11).

Part III The analysis results of interview contents about industry cooperation of Guangxi vocational university

This research and use researchers specifically designed the interview form for this research, and present the information provided by the interviewees through structural interviews. The interviewees are the population of this study, including from Guangxi University, Guangxi Electric Power Vocational and Technical College, and the Guangxi Electric Power Vocational and Technical College, and Liuzhou Railway Vocational and Technical College, Guangxi Water Conservancy Vocational College, Nanning Vocational and Technical College, Guangxi Ecological Vocational and Technical College, including 6 college vocational education managers and associate professors. Expert qualifications have been engaged in vocational education for more than 10 years. Details are as follows:

Table 4.7 Information of interviewees

No	Position	Work experience in university (year)	University
Interviewee 1	Mid-level administrator	15	Guangxi City Vocational University
Interviewee 2	Mid-level administrator	15	Guangxi vocational University of Agriculture
Interviewee 3	Mid-level administrator	20	Guangxi City Vocational University
Interviewee 4	Mid-level administrator	20	Guangxi vocational University of Agriculture
Interviewee 5	Mid-level administrator	15	Guangxi City Vocational University
Interviewee 6	Mid-level administrator	12	Guangxi vocational University of Agriculture
Interviewee 7	Mid-level administrator	10	Guangxi vocational University of Agriculture

Table 4.7 Information of interviewees (Continue)

No	Position	Work experience in university (year)	University
Interviewee 8	Mid-level administrator	25	Guangxi vocational University of Agriculture
Interviewee 9	Mid-level administrator	30	Guangxi vocational University of Agriculture

Interviewee 1

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

Cooperation resources are: government policies, financial management, equity distribution, etc. Establish a cooperation mechanism for industry -university -research. Guangxi Vocational University signed a cooperation agreement with enterprises to jointly carry out activities such as scientific research and technological innovation to promote the in -depth development of vocational universities and industrial cooperation.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

At present, there are resource sharing, school rent -free rent, and industry settled in schools to provide teaching equipment and technical services. Carry out professional construction and talent training plans to dock with corporate needs. According to the needs of enterprises, Guangxi Vocational University adjusts professional settings and curriculum settings, and cultivates high -quality talents that meet market demand.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

It has not yet established a sound collaborative innovation platform, and it is indeed less comprehensive collaborative innovation platforms and management models. Carry out technical services to provide technical support for enterprises. Guangxi Vocational University actively carry out technical services to provide enterprises with services such as technical consulting, technical services, technical transfer, and technical training. Provide enterprises with multiple support and services, and promote the in -depth development of vocational universities and industrial cooperation.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management system is not perfect, and the management system needs to be continued. Vocational universities cooperate with industry. The university must have high -end technology, can provide enterprises with the ability to provide intellectual property rights, and provide technical help to the industry. Promote the integration of industry, university and research, and build an industrial technology innovation center. Guangxi Vocational University actively promotes the integration of industry, university, and research, build an industrial technology innovation center, and provide enterprises with innovative support and technical support. Establish a comprehensive management system. Universities need to formulate a operating management system with operable production, education and research according to their own characteristics and actual conditions, clarify the specific processes and steps of each link, and ensure the standardization and smoothness of the management process. In addition, universities also need to strengthen the publicity and promotion of the management system, so that managers and teachers can fully understand and abide by the system regulations.

Interviewee 2

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main resources of cooperation are: the enthusiasm, incentive mechanism, and interest distribution system of industrial managers participating in the cooperation of vocational universities. Establish cooperation with enterprises. Vocational universities signed cooperation agreements with enterprises to jointly carry out activities such as technical research, teaching practice, student internships, and employment guidance to transport high -quality talents for enterprises. Strengthen cooperation with all walks of life with enterprises, governments. Universities need to actively cooperate with all sectors of society, strengthen the practice of integration of production, teaching and research, and jointly promote the combination of industries, teaching, and scientific research. Through cooperation with all walks of life, universities can more deeply understand market demand and industry development trends, and improve the quality and level of talent training.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The current cooperation mainly has the transformation of patents and a large number of patent results in vocational universities. The industry needs to purchase these patents to quantitative production and increase the output value of the industry. Promote the cooperation project of vocational universities and industry. Vocational universities and enterprises cooperate to carry out vocational universities and industrial cooperation projects, such as carrying out training bases, formulating talent training plans, and carrying out skill contests to promote the close combination of industry and education.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

Some universities and industries have established collaborative and collaborative innovation models, providing equipment from the industry, providing technical talents of universities, and developing products on both sides. Carry out skill training and services. Vocational universities provide technical support for enterprises through the form of skilled training classes and technical services. At the same time, they also provide students with practical opportunities and improve students' actual ability.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

Relevant systems have been established during the cooperation between vocational universities and industry. For example: assessment system, award system, intellectual property system, interest distribution system, etc. Establish a joint research mechanism for industry, teaching, and scientific research. Joint research on industry, teaching, and scientific research cooperation with enterprises to cooperate with enterprises to jointly solve the actual problems of the enterprise and improve the corporate innovation capabilities and core competitiveness. It is recommended that colleges and universities should deeply understand the strategic significance and practical methods of integration of production, teaching and research, and formulate more specific and operable management systems. At the same time, colleges and universities should strengthen the training and publicity of managers and teachers, increase their understanding and understanding of the integration of production, education and research, and enable the management system to be effectively implemented and implemented.

Interviewee 3

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main cooperation resources include: the industry lacks the motivation for cooperation with a vocational university, and the research and development capabilities of vocational universities are insufficient. Promote scientific and technological innovation and improve industrial competitiveness. Working universities cooperate with enterprises to jointly carry out scientific and technological innovation, improve industrial competitiveness and core competitiveness, and promote the sustainable development of the industry.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The integration of production and education is not enough. Most of them take the initiative to attacked the colleges and universities. Most enterprises will not take the initiative to find colleges to cooperate. When companies need a large number of technical personnel, they will take the initiative to find vocational universities for cooperation. Establish a training base to improve practical ability. Communist universities cooperate with enterprises to jointly build training bases to provide students with practical opportunities, improve their practical capabilities, and better meet the talent needs of enterprises.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

The implementation of the collaborative innovation model requires government support. In terms of government policy guarantee, the relevant policies and regulations and operating mechanisms of promoting the integration of production and education are not sound, the lack of incentive policies and inadequate implementation. Carry out collaborative education and strengthen industry -academia

integration. Vocational universities have established a close connection with enterprises and cooperative relationships with industry, promote the integration of industry and academia, and carry out collaborative education to make education and industry more closely integrate.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The government should fully attach importance to cooperation with vocational universities and industries, and the perfect government system is the guarantee of deep integration of production and education. Some local governments have issued relevant preferential policies, such as industrial rewards or some tax preferential policies that actively participate in the integration of production and education. Strengthen talent training and transport high -quality talents for enterprises. Vocational universities conduct talent training through cooperation with vocational universities and industries, to transport talents with market demand and high quality for enterprises, and improve their innovative capabilities and core competitiveness of enterprises. Strengthen cooperation with enterprises, realize the organic combination of education and industry, and promote the in -depth development of industry -academia integration. Establish a sound professional university and industrial cooperation mechanism, formulate reasonable cooperation agreements, refine the content of cooperation, ensure the smooth development of cooperation, and achieve a win -win effect.

Interviewee 4

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main cooperation resources are: the policy and measures of vocational universities and industrial cooperation are lacking targeted, and the policy is only guiding suggestions, and the lack of specific implementation plans. It is difficult to implement specific implementation. Establish a vocational university and industrial cooperation fund to strengthen financial support. Vocational universities and enterprises establish vocational universities and industrial cooperation funds to provide financial support for vocational universities and industrial cooperation to help colleges better serve the development of enterprises and industries. Establish a diversified education model to improve the quality of education. Vocational universities should develop a diversified educational model according to different industry characteristics and corporate needs, and improve the quality of education and teaching effects.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

There is a lack of benign cooperation model between vocational universities and industry cooperation and lack of long -term effective cooperation models. It is mainly reflected that according to the needs of industrial production and reform, the education and teaching settings of vocational universities have been reformed. Vocational universities provide less technological innovation results for industrial production. Establish a diversified education model to improve the quality of education. Vocational universities should develop a diversified educational model according to different industry characteristics and corporate needs, and improve the quality of education and teaching effects. Strengthen practical teaching and improve students' actual ability. Vocational universities improve students' actual operation ability through practical teaching, so that they can better meet the needs of enterprises.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

Vocational technology and industrial cooperation lacks effective coordination mechanisms, and the collaborative innovation model still stays in a more conventional collaborative innovation model. It is difficult to achieve the goal of win -win cooperation, most of which are vocational universities. Promote technological innovation and improve the core competitiveness of the industry. Working universities cooperate with enterprises to jointly develop and innovate in technological innovation, promote the development and upgrade of the industry, and improve its core competitiveness.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

Innovative talents should be constructed to improve the lifelong learning system, pay attention to the training of talents, cultivate the cultivation of artisans in large powers, and adopt the integration system. Encourage collectives and individuals who have contributed to the merger of production and education, and select outstanding organizations and individuals. Establish a scientific evaluation system to improve the quality of education and the comprehensive quality of students. Vocational universities should establish a scientific evaluation system, evaluate from many aspects such as education quality, student comprehensive quality, etc., and improve the quality of education and the comprehensive quality of students. Improve teachers' practical experience and professional skills. Vocational universities should strengthen the construction of teachers, improve teachers' practical experience and professional ability, and provide students with better education and guidance. Strengthen educational information and improve teaching efficiency and quality. Vocational universities should strengthen education informatization, promote advanced education technology, improve teaching efficiency and quality, and meet the needs of the development of the times.

Interviewee 5

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main cooperation resources are: the lack of cooperation between vocational universities and industrial cooperation, which lacks cooperation and innovation, has made it relatively difficult to carry out cooperation. We should strive for innovative resources and create a cooperation and innovation environment. Strengthen talent training and transport high -quality talents for enterprises. Working universities cooperate with enterprises to jointly carry out talent training projects, transport high -quality talents to enterprises, and improve the competitiveness of talents in enterprises. Strengthen industrial research and provide support for industrial development. Working universities cooperate with enterprises to jointly carry out industrial research, support the development of the industry, and promote the upgrading and transformation of the industry.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

There is a lack of cooperation in cooperation between vocational universities and industry cooperation. Without the awareness of cooperation between the community of destiny, it should establish a joint mechanism for the cooperation model of universities, industries, and governments, etc., which is more conducive to the goal of win -win cooperation. Strengthen talent training, focus on the training of students 'practical ability, and improve students' professional quality and comprehensive ability. Strengthen the construction of teachers, improve the teaching level and practical experience of teachers, and provide students with better education and guidance. Strengthen the construction of vocational universities and industry cooperation funds, provide financial support for vocational universities and industrial cooperation, and help better serve the development of enterprises and industries.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

Vocational technology and industrial cooperation lacks effective collaborative innovation platforms. The national key laboratories, which are jointly established and shared by vocational universities and industrial colleges, have not yet formed. There are no key laboratories as hardware support, and it is difficult to carry out scientific research and technological innovation. The joint support of the government and industry should be strived to build a national key laboratory established and shared by a vocational university and the School of Industry. Strengthen industrial research and provide support for industrial development. Working universities cooperate with enterprises to jointly carry out industrial research, support the development of the industry, and promote the upgrading and transformation of the industry. Establish a joint laboratory of production, teaching and research, and strengthen industry, teaching, and scientific research. Communist universities and enterprises cooperate to establish a common laboratory, jointly carry out scientific research projects, promote the integration of industry, teaching, and scientific research, and improve the college's scientific research level.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management system of vocational universities and industrial cooperation is incomplete. It is mainly reflected in the formulation and improvement of the manager's system, and the enthusiasm is not high. You can adopt training and industrial production and exercise to improve the leadership and management capabilities of vocational college managers. Strengthen the cooperation mechanism of vocational universities and industries, establish more production, education and research cooperation projects, and promote the in -depth development of industry, teaching, and scientific research.

Interviewee 6

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

Cooperation resources are mainly: vocational universities lack the intention of cooperation with the industry, and the phenomenon of two skin occurred, and there is no in -depth cooperation, which is relatively difficult to carry out cooperation. The concept of innovative cooperation should be established and the work of actively establishing ideas. Create an atmosphere of innovation in cooperation. Strengthen the understanding and understanding of the integration of production, education and research. Universities should improve the degree of understanding and understanding of management personnel and teachers for the integration and understanding of production, education and research through relevant training and seminars, etc., so that they can clearly understand the strategic significance and practical methods of integration of production, education and research, and in order to formulate and implement the management system Provide powerful support.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The lack of co -construction, sharing, co -management, and win -win cooperation models between vocational universities and industrial cooperation should build a co -construction, sharing, co -management, and win -win cooperation model, jointly build training bases, jointly build industrial colleges, shared software, and shared software,, shared software, shared software, and shared software, shared software, and shared software, shared software, and shared software, and shared software, and shared software, and shared software, and shared software. Hardware resources. The joint management of a vocational university and the industry can achieve the goal of win -win situation between the two sides. Establish an industrial alliance model. Education universities and related enterprises and organizations jointly form an industrial alliance to jointly carry out cooperation in

industrial research, technological innovation, and talent training. Establish a customized training model. According to the actual needs of the enterprise, the vocational university carried out professional training to help enterprises improve employee skills and improve the core competitiveness of the enterprise

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

Professional technology and industrial cooperation lacks technological innovation platforms, and technology research and development centers should be formed to introduce high -level talents, subject leaders, and national outstanding scientific research teams. Work together to build a technology R & D Innovation Center. Establish a joint laboratory mode. Communist universities and enterprises cooperate to establish a joint laboratory, jointly conduct scientific research projects, promote the integration of industry, teaching, and scientific research, and improve the college's scientific research level. Establish a mode of production and education integration. Vocational universities cooperate with enterprises to establish academician workstations, inviting experts and scholars, corporate executives and other personnel to participate, and carry out integrated cooperation projects of industry, teaching, and scientific research.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management system of vocational universities and industrial cooperation cannot be reflected with the times. There are many old systems and fewer new systems. It cannot effectively reflect the development requirements in the era of big data. It can establish a digital system management platform to promote the construction and implementation of the system. Strengthen cooperation with industry enterprises, in -depth understanding of industry development trends and corporate needs, and establish a model of production, education and research cooperation that meets actual needs. Through the industrial alliance and other models, promote

industrial collaborative innovation and achieve optimization and upgrading of the industrial chain. Establish long -term stable cooperation relationships with enterprises, and establish a concept of cooperation with common development and common growth.

Interviewee 7

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main cooperation resources are: During the process of cooperation between vocational universities and industries, there are too few projects that can provide technologies for industry universities that can provide technologies for industries. The direct economic benefits brought by the industry are low, which leads to a reduction in the enthusiasm of industrial and vocational universities. Teachers should pay attention to teachers. Increasing technological innovation capabilities, increasing technological innovation projects, and creating value for enterprises.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The cooperation model between vocational universities and industrial cooperation lacks cooperation supervision and management mechanisms, and the supervision and management mechanism should be established to effectively improve the motivation for cooperation between the two parties. 1 Vocational university cooperation model. Working universities cooperate with enterprises to jointly carry out cooperation in curriculum design, practical teaching, and training programs to improve students' practical ability and employment competitiveness. Industry, teaching, and scientific research base model. Working universities cooperate with enterprises to establish industrial, teaching, and scientific research bases, and jointly carry out cooperation in industrial research, technology research and development, and talent training.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

The cooperation between vocational technology and industrial cooperation has fewer collaborative innovation platforms, and fewer digital management platforms have been built. In the era of big data, the digital collaborative innovation platform should be constructed to promote industrial integration and upgrading, and realize the command and management of big data monitoring platforms. Training base mode. Working universities cooperate with enterprises to jointly establish training bases to provide students with practical teaching opportunities and improve students' professional quality and practical ability. Industrial training model. According to corporate needs, vocational universities carry out targeted enterprise training programs to improve the talent quality and core competitiveness of enterprises

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management system is incomplete. In the process of integration of production, teaching and research, some vocational universities lack relevant management systems, resulting in unable to effectively promote cooperative projects. The management system of vocational universities and industrial cooperation cannot effectively improve the enthusiasm of enterprise cooperation, which is not conducive to the formation of the School of Industry and the lack of the management system of the School of Industry. The management system, declaration system, and operating mechanism of the School of Industry should be established and improved.

Establish a comprehensive management system. Vocational universities should establish relevant management system for production, education and research, standardize cooperation processes and management procedures, and ensure the smooth development of cooperative projects. Improve the management process. The university should clarify the management process of the integration of production, teaching and research and the responsibilities of various links, and establish an

information communication and feedback mechanism to ensure that the needs of enterprises can be met in time.

Interviewee 8

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

In the process of cooperation between vocational universities and industrial cooperation, industrial managers are not active in participating in cooperation, and there are fewer cooperation projects. They mainly from enrolling school interns to industry to follow -up internships. In terms of co -construction training bases, less funds have been invested.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The cooperation model between vocational universities and industry cooperation lacks new technologies cooperation. Core technology mainly includes the initiative of the industry, and the university has lagged behind the industry in terms of technological innovation and new standard formulation. Vocational universities should build cross -border innovation and integrate innovation teachers to provide technical support for enterprises.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

The collaborative innovation model of vocational technology and industrial cooperation, lack of evaluation systems, what the collaborative innovation model of professional technology and industrial cooperation is made, and what goals and levels need to be achieved. Many indicators are not clear and lack of planning. A effective evaluation system should be established.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management process is not clear. When cooperating with enterprises in some vocational universities, due to the unclear management process, the information communication is poor, and the needs of enterprise cannot be met in time, affecting the effect of cooperation. In the management system of vocational universities and industrial cooperation, the content of talent training and improvement of talents is not conducive to improvement of talent capabilities. The system of talent training and ability improvement should be established. Strengthen quality monitoring. Vocational universities should establish a quality monitoring mechanism, monitor and evaluate the integrated cooperation projects of production, teaching and research, discover and solve problems in time, and improve the quality and effect of cooperation. Establish an incentive mechanism. Vocational universities should establish an incentive mechanism to encourage the enthusiasm and innovation of the integrated managers and participants of production, teaching and research, and the results and benefits of cooperation. Strengthen information construction. Vocational universities should strengthen information construction, establish information platforms and management systems, and conduct information management of the integration of production, teaching and research, and improve work efficiency and quality.

Interviewee 9

1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?

The main cooperation resources are: in the process of cooperation between vocational universities and industrial cooperation, joint training bases require a lot of funds. Due to less investment in funds, it is difficult to form a good industrial college. It needs to raise funds from various channels such as government investment, industrial

investment, industry association investment, and outstanding alumni investment to jointly build an industrial college.

2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?

The cooperation model between vocational universities and industry cooperation, the initiative of enterprises participating in vocational education is low, and there are fewer opportunities for technical training and hiring vocational universities to participate in new technologies and new products for vocational universities.

3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?

There are fewer opportunities for professional technology and industrial exchanges, less participating in project construction, and less actual cooperative projects.

4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

The management mechanism is not complete. In the process of integration of production, teaching and research, some vocational universities lack effective management mechanisms, resulting in slow project progress and poor results. In the management system of vocational universities and industry cooperation, the system for fund management needs to be improved. In terms of funding expenditures, further refinement needs to be further refined, and decentralization should be decentralized and the system of service consciousness of financial management personnel should be improved. Improve the management mechanism. Vocational universities should establish a sound management mechanism for the integration of production, education, and research, including the management of project establishment, implementation, and acceptance to ensure the smooth progress of the project and

achieve good results. Strengthen talent training. Vocational universities should strengthen the training and exchanges of the integration of production, education and research, improve their management level and capabilities, and provide talent guarantees for the integration of production, education and research.

According to the analysis of the questionnaire survey of cooperation between Guangxi Vocational University and Industry Cooperation and Industrial Cooperation, and the analysis of the interview results in the third part, it can be found that the cooperation management of Guangxi Vocational University and Industry requires cooperation resources, cooperation models, collaborative innovation models, and management system. Essence Through the investigation and interviews of questionnaires, this article proposes the management strategy of Guangxi Vocational University and Industrial Cooperation, including four aspects: 1) cooperation resources, 2) cooperation models, 3) collaborative innovation models, 4) management system. Details are as follows:

Table 4.8 Administration strategies in industry cooperation of Guangxi vocational university

Strategy	How
Optimize collaborative innovation mode	1. Build a framework system of cooperation-system-innovation" 2. Vocational universities and industries set up scientific search and innovation teams 3. National Key Laboratory of Vocational University and Industry 4. Established core technology R & D center 5. Form a technological innovation assessment method 6. Construct a partner selection evaluation system for collaborative innovation centers in colleges and universities

Table 4.8 Administration strategies in industry cooperation of Guangxi vocational university (Continue)

Strategy	How
	7. Establish a cooperative operation mechanism for collaborative innovation centers in colleges and universities 8. Establish a collaborative innovation platform and realize digital management 9. Establish a collaborative and collaborative innovation performance appraisal and evaluation system Strengthen exchanges and cooperation between cooperative units
Optimize cooperation mode	1. Establish a cooperation model and mechanism for universities, industries, governments and other multi-main communities with a shared future 2. Build a shared management rights model 3. Build a shared usage rights model 4. Establish a cooperative supervision, management and evaluation mechanism 5. Build a skills training model led by industry enterprises 6. Build a government-led cooperation model 7. Constructing a "double division" structure of cross-border collaboration Teacher team 8. Strengthen cooperation on new technologies, new standards, and new skills

Table 4.8 Administration strategies in industry cooperation of Guangxi vocational university (Continue)

Strategy	How
	9. Clarify the division of labor between vocational universities and industries 10. Vocational universities provide intellectual property rights to industry and increase the conversion rate of results
Optimize cooperative resources	1.Increase government policy support 2.Increase the channels for financing industrial cooperation funds 3.Formulate a reasonable distribution of industrial cooperation benefits 4.Establish and improve the management mechanism 5.Improve the enthusiasm of industrial managers to participate in vocational education 6.Improve the enthusiasm of managers to participate in vocational education 7.Increase government funding 8.Improve teachers' ability to provide technical support to enterprises 9.Establish the concept of cooperative innovation 10.Strive for innovative resources and create a cooperative innovation environment

Table 4.8 Administration strategies in industry cooperation of Guangxi vocational university (Continue)

Strategy	How
Optimize management System	1. Optimizing the leadership of vocational university administrators 2. Establish an industrial cooperation management system 3. Improve the transformation system of technological achievements 4. Improve the talent management system 5. Improve the fund management system 6. Build a lifelong learning system in the promotion of innovative talents 7. Build a skilled talent training and reward mechanism 8. Improve the cooperation fund guarantee mechanism 9. Improve the industrial cooperation incentive system Establish a management system for vocational universities to provide technical services for industry

The Administration strategies in industry cooperation of Guangxi vocational university are as follows:

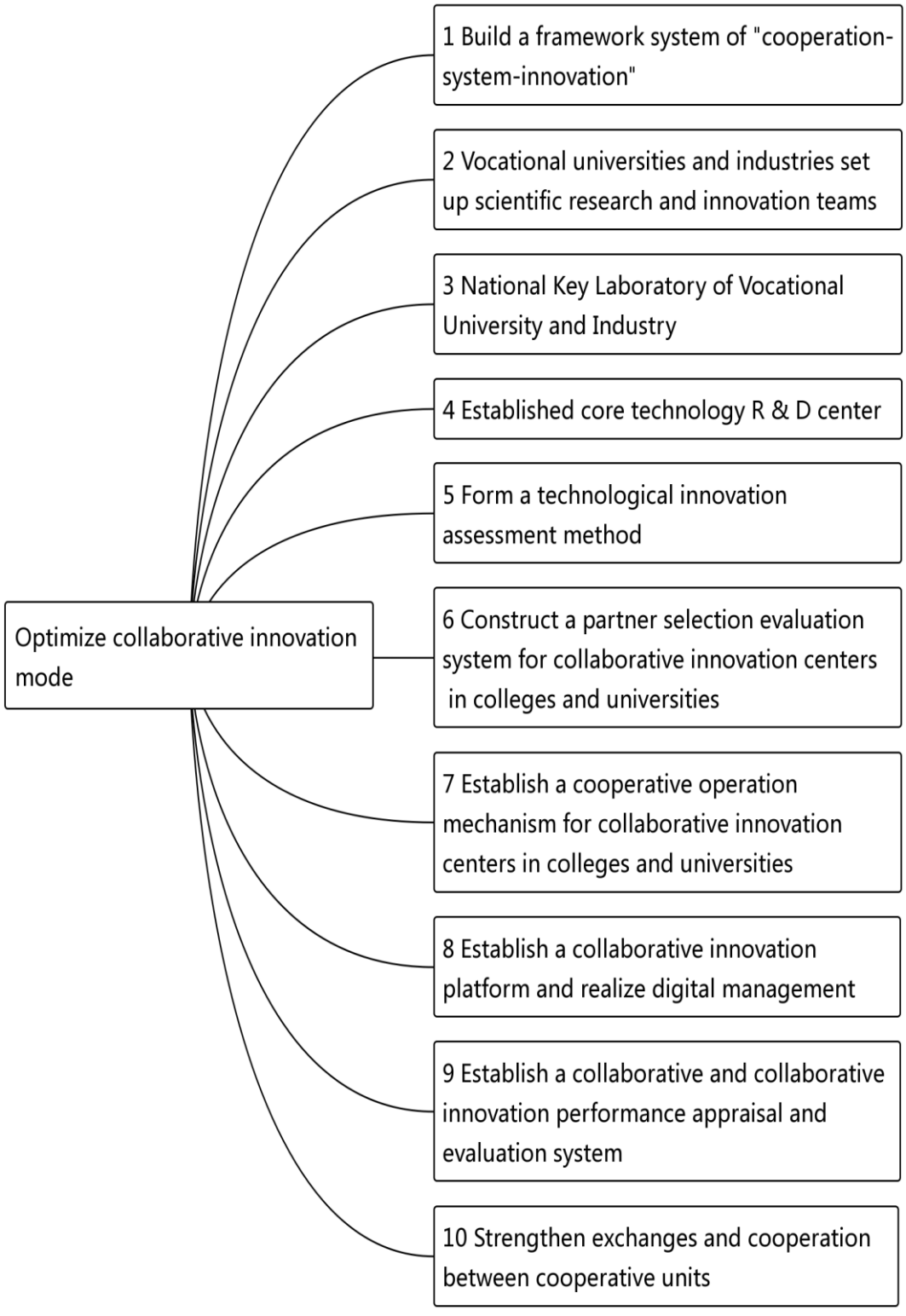

Figure 4.1 Strategies of optimize collaborative innovation model

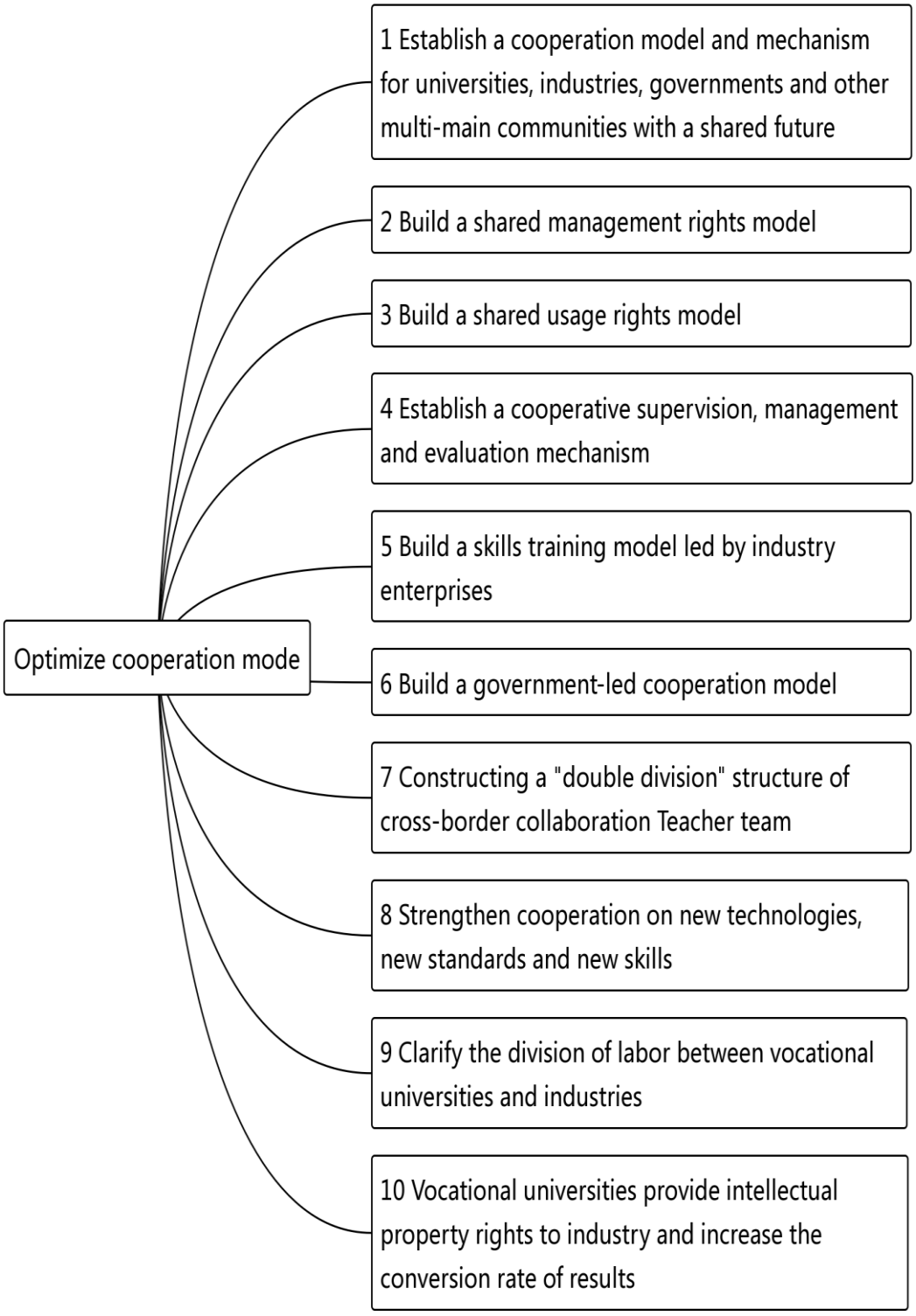

Figure 4.2 Strategies of optimize cooperation mode

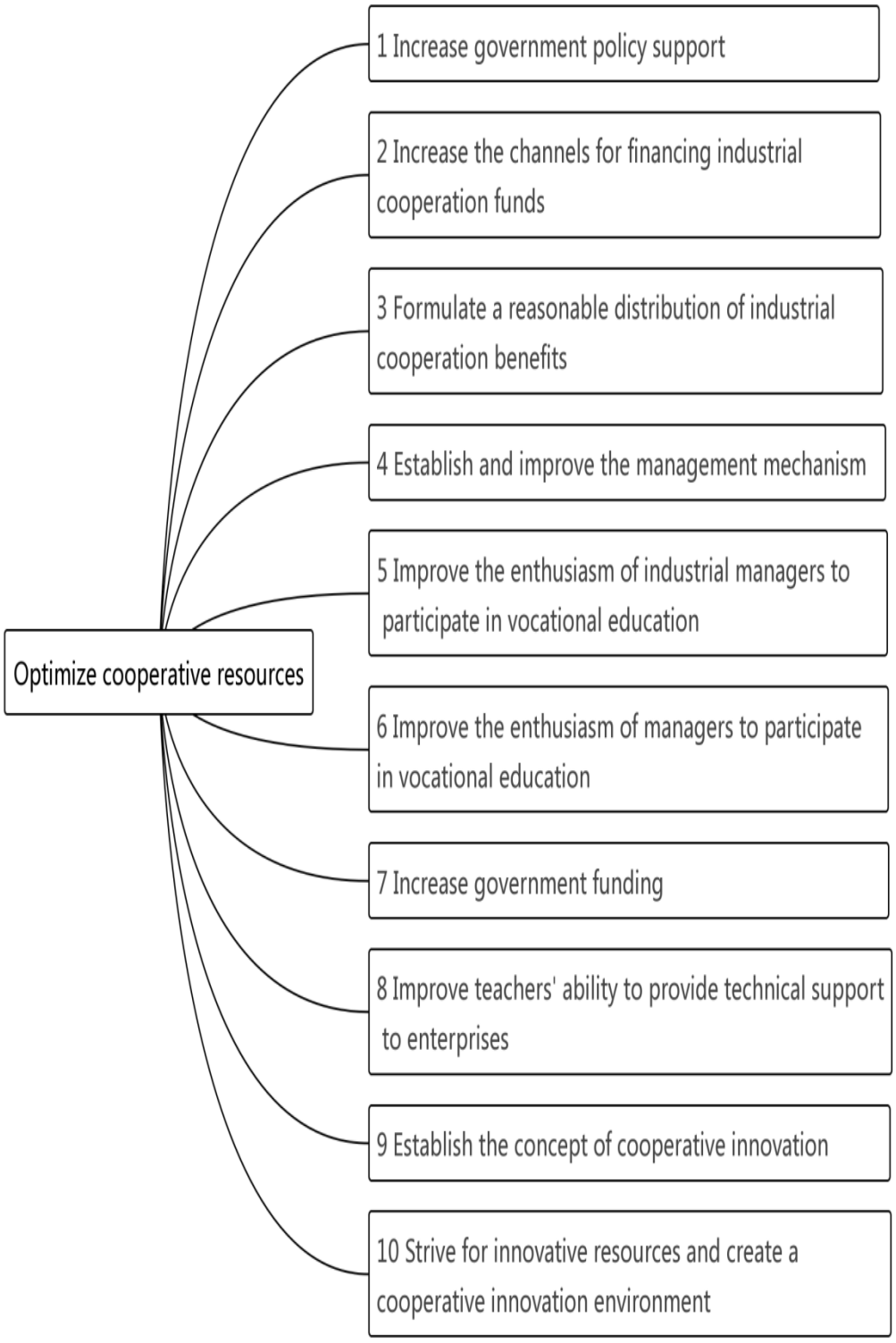

Figure 4.3 Strategies of optimize cooperative resources

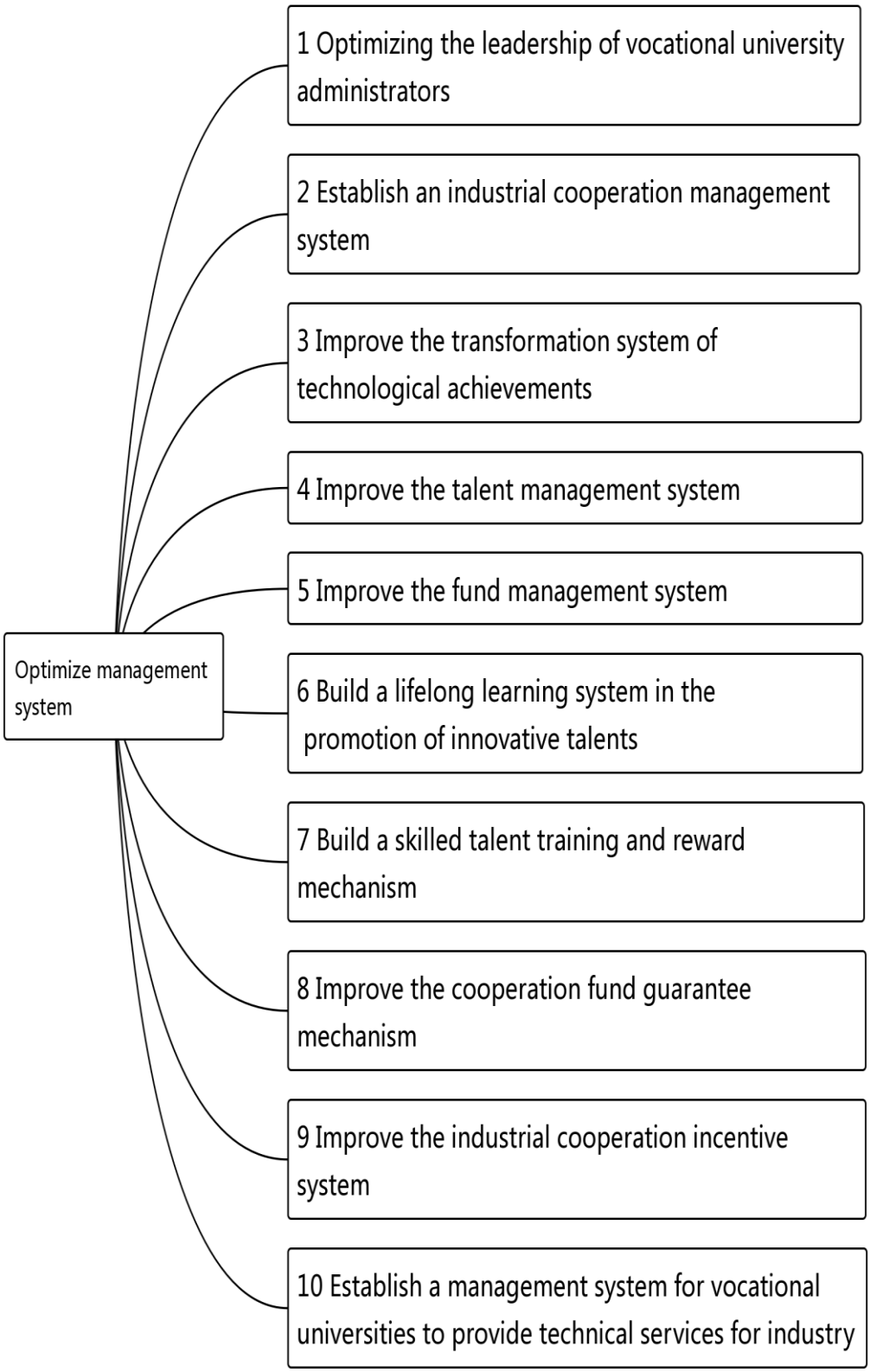

Figure 4.4 Strategies of optimize management system

Part IV The analysis result about evaluation of adaptability and feasibility of Administration strategies in industry cooperation of Guangxi vocational university

According to the analysis of the status quo in the second part of the questionnaire, we can see that the management of cooperation between Guangxi Vocational University and Industry needs to be optimized from four aspects: Cooperative resources, cooperation models, collaborative innovation models and management systems. According to the arrangement of the third part of the interview, this study proposed the management of cooperation between Guangxi Vocational University and Industry. This strategy includes four aspects: a Total of 40 measures: 1) Optimized factors strategies, 2) 10 measures for optimizing cooperation model strategies, 3) 10 measures to optimize collaborative innovation model strategies, 4) optimizing the management system strategy There are 10 measures. Details are as follows:

Table 4.9 Evaluation result of administration strategies

Assessment checklist	adaptability			feasibility		
	$\overline{X}$	SD	result	$\overline{X}$	SD	result
Optimize the strategy of the collaborative innovation model						
1. Build a framework system of "cooperation-system-innovation"	4.20	0.45	High	4.20	0.45	High
2. Vocational universities and industries set up scientific research and innovation teams	4.80	0.00	Highest	4.40	0.84	High
3. National Key Laboratory of Vocational University and Industry	4.40	0.55	High	4.20	0.45	High
4. Established core technology R & D center	4.40	0.55	High	4.20	0.45	High

Table 4.9 Evaluation result of administration strategies (Continue)

Assessment checklist	adaptability			feasibility		
	$\overline{X}$	SD	result	$\overline{X}$	SD	result
5. Form a technological innovation assessment method	4.20	0.45	High	4.20	0.44	High
6. Construct a partner selection evaluation system for collaborative innovation centers in colleges and universities	4.20	0.45	High	4.20	0.84	High
7. Establish a cooperative operation mechanism for collaborative innovation centers in colleges and universities	4.40	0.55	High	4.20	0.45	High
8. Establish a collaborative innovation platform and realize digital management	4.20	0.84	High	4.20	0.84	High
9. Establish a collaborative and collaborative innovation performance appraisal and evaluation system	4.60	0.55	High	4.40	0.55	High
10. Strengthen exchanges and cooperation between cooperative units	4.40	0.55	High	4.20	0.84	High
Optimize the strategy of cooperation model						
1. Establish a cooperation model and mechanism for universities, industries, governments and other multi-main communities with a shared future	4.80	0.45	Highest	4.20	0.84	High

Table 4.9 Evaluation result of administration strategies (Continue)

Assessment checklist	adaptability			feasibility		
	$\overline{X}$	SD	result	$\overline{X}$	SD	result
2. Build a shared management rights model	4.20	0.45	High	4.20	0.84	High
3. Build a shared usage rights model	4.40	0.55	High	4.20	0.45	High
4. Establish a cooperative supervision, management and evaluation mechanism	4.20	0.45	High	4.20	0.84	High
5. Build a skills training model led by industry enterprises	4.40	0.55	High	4.40	0.55	High
6. Build a government-led cooperation model	4.00	0.71	High	4.00	0.71	High
7. Constructing a "double division" structure of cross-border collaboration Teacher team	4.20	0.45	High	4.20	0.71	High
8. Strengthen cooperation on new technologies, new standards and new skills	4.00	0.71	High	4.00	0.71	High
9. Clarify the division of labor between vocational universities and industries	4.20	0.45	High	4.80	0.45	Highest
10. Vocational universities provide intellectual property rights to industry and increase the conversion rate of results	4.00	0.71	High	4.00	0.71	High

Table 4.9 Evaluation result of administration strategies (Continue)

Assessment checklist	adaptability			feasibility		
	$\overline{X}$	SD	result	$\overline{X}$	SD	result
Optimize the strategy of Cooperative resources						
1. Increase government policy support	4.20	0.45	High	4.00	0.71	High
2. Increase the channels for financing industrial cooperation funds	4.20	0.84	High	4.20	0.84	High
3. Formulate a reasonable distribution of industrial cooperation benefits	4.40	0.55	High	4.20	0.45	High
4. Establish and improve the management mechanism	5.00	0.00	Highest	4.00	0.71	High
5. Improve the enthusiasm of industrial managers to participate in vocational education	4.20	0.83	High	4.20	0.45	High
6. Improve the enthusiasm of managers to participate in vocational education	4.00	0.71	High	4.00	0.71	High
7. Increase government funding	4.20	0.84	High	4.00	0.71	High
8. Improve teachers' ability to provide technical support to enterprises	4.00	0.71	High	4.00	0.71	High
9. Establish the concept of cooperative innovation	4.20	0.84	High	4.00	0.71	High
10. Strive for innovative resources and create a cooperative innovation environment	4.40	0.55	High	4.00	0.71	High

Table 4.9 Evaluation result of administration strategies (Continue)

Assessment checklist	adaptability			feasibility		
	$\overline{X}$	SD	result	$\overline{X}$	SD	result
Optimize the strategy of the management system						
1. Optimizing the leadership of vocational university administrators	4.60	0.55	High	4.80	0.45	Highest
2. Establish an industrial cooperation management system	4.20	0.84	High	4.20	0.45	High
3. Improve the transformation system of technological achievements	4.40	0.54	High	4.20	0.45	High
4. Improve the talent management system	5.00	0.00	Highest	4.00	0.71	High
5. Improve the fund management system	4.20	0.45	High	4.20	0.44	High
6. Build a lifelong learning system in the promotion of innovative talents	4.20	0.45	High	4.20	0.84	High
7. Build a skilled talent training and reward mechanism	4.40	0.55	High	4.20	0.45	High
8. Improve the cooperation fund guarantee mechanism	4.20	0.45	High	4.20	0.84	High
9. Improve the industrial cooperation incentive system	4.20	0.45	High	4.20	0.84	High
10. Establish a management system for vocational universities to provide technical services for industry	4.20	0.45	High	4.20	0.84	High

According to table 4.9, the results of the data analysis shown that the adaptability and feasibility of the 4 strategies and the 40 measures of Administration strategies in industry cooperation of Guangxi vocational university are all above HICH:

1. The average value of all adaptive items is between 4.0 and 5.00, and it is at a high level of applicable, indicating that the strategy is highly applicable.

2. The average value of all feasible items is between 4.0 and 4.8, which is at a high level, indicating that the strategy is high feasibility.

Other recommendations to assess the suitability of implementing the educational cooperation strategy between Guangxi Vocational College and industry are as follows:

The key point of cooperation between Guangxi Vocational University and industry lies in improving the management system and improving the supporting system of the management system between the vocational university and the industrial cooperation, such as improving the vocational qualification examination, high-skilled personnel training system, teacher skill training system, etc.

The cooperation between Guangxi Vocational University and the industry should establish and improve the collaborative innovation platform.

Chapter 5
Conclusions Discussion and Recommendations

The objective of this study includes three aspects: 1) to study the current situation of industry cooperation of vocational university in Guangxi, 2) to develop the administration strategies in industry cooperation of vocational university in Guangxi, 3) to evaluate the adaptability and feasibility of administration strategies in industry cooperation of vocational university in Guangxi.

This study uses the theory of industry -university -research work and education management theory as theoretical support. Through research tools such as questionnaire surveys and interviews, collect the current status and existing problems of cooperation management and existing in the cooperation between Guangxi Vocational University and Industry, and propose to optimize the strategy of cooperation resources, cooperation model strategies, collaborative innovation model strategies, and management system strategies. For 4 strategies, 40, 40 The measures were evaluated. The model of the Guangxi Vocational University and Industry Cooperation Management Strategy has been established to improve the effectiveness of Guangxi Vocational University and Industry Cooperation Management and promote the high -quality development of Guangxi Vocational University and Industry Cooperation. Details are as follows:

Conclusion

This study aims to discuss administration strategies in industry cooperation of vocational university in Guangxi. This article has studied four research variables, namely: Cooperative resources, cooperation models, collaborative innovation models, and management systems. Through research and analysis, the following conclusions are obtained in this article:

Based on the purpose of the first research, based on the survey data, the current status of arithmetic average and analysis of the management status of Guangxi Vocational University and Industry cooperation is found. Medium levels need to be further improved and improved.

This study aims to discuss the management strategies of Guangxi Vocational University and Industrial Cooperation. This article has studied the four factors of the cooperation of the variable industry, namely: cooperation resources, cooperation models, collaborative innovation models, and management systems. Through research and analysis, the following conclusions are obtained in this article:

Optimize Cooperative resources strategies, including 10 measures:

1. Increase government policy support;

2. Increase the channels for financing industrial cooperation funds;

3. Formulate a reasonable distribution of industrial cooperation benefits;

4. Establish and improve the management mechanism;

5. Improve the enthusiasm of industrial managers to participate in vocational education;

6. Improve the enthusiasm of managers to participate in vocational education;

7. Increase government funding;

8. Improve teachers' ability to provide technical support to enterprises;

9. Establish the concept of cooperative innovation;

10. Strive for innovative resources and create a cooperative innovation environment.

Optimize cooperation model strategies; including 10 measures:

1 Establish a cooperation model and mechanism for universities, industries, governments and other multi-main communities with a shared future;

2 Build a shared management rights model;

3 Build a shared usage rights model;

4.Establish a cooperative supervision, management and evaluation mechanism;

5.Build a skills training model led by industry enterprises;6.Build a government-led cooperation model;

7.Constructing a "double division" structure of ross-border collaboration Teacher team;

8.Strengthen cooperation on new technologies, new standards and new skills;

9.Clarify the division of labor between vocational universities and industries;

10.Vocational universities provide intellectual property rights to industry and increase the conversion rate of results.

Optimize the collaborative innovation model strategy, including 10 measures:

1. Build framework system of "cooperation-system-innovation";

2. Vocational universities and industries set up scientific research and innovation teams;

3. National Key Laboratory of Vocational University and Industry;

4. Established core technology R & D center;

5. Form a technological innovation assessment method;

6. Construct a partner selection evaluation system for collaborative innovation centers in colleges and universities;

7. Establish a cooperative operation mechanism for collaborative innovation centers in colleges and universities;

8.Establish a collaborative innovation platform and realize digital management;

9.Establish a collaborative and collaborative innovation performance appraisal and evaluation system;

10. Strengthen exchanges and cooperation between cooperative units.

Optimization of institutional management strategies, including 10 measures:

1. Optimizing the leadership of vocational university administrators;

2. Establish an industrial cooperation management system;

3. Improve the transformation system of technological achievements;

4. Improve the talent management system;

5. Improve the fund management system;

6. Build a lifelong learning system in the promotion of innovative talents;

7.Build a skilled talent training and reward mechanism;

8. Improve the cooperation fund guarantee mechanism;

9. Improve the industrial cooperation incentive system;

10. Establish a management system for vocational universities to provide technical services for industry.

According to the third research purpose, the researchers conducted an expert assessment of the implementation of administration strategies in industry cooperation of vocational university in Guangxi. The results showed that the strategy was highly feasible and appropriate. Theoretically, it has important research value and reference value for optimizing the management of Guangxi Vocational University

and Industrial Cooperation.

Discussion

Through the survey of the status quo, the management of cooperation between Guangxi Vocational University and Industrial has various problems in cooperation resources, cooperation models, collaborative innovation models, and management systems. After analyzing the arithmetic average and standard deviation of the entire questionnaire, cooperation resources, cooperation models, collaborative innovation models, and management systems are at a medium level and need to be further improved and improved.

Discussion on Cooperative resources

At present, there are some problems in the cooperation model, such as sufficient funds between vocational universities and industries. This is consistent with Zhang Zaiqun's research conclusion. Regarding industrial cooperation, the lack of funds between universities and industries also meets Zhang Hao (2019) and believes that industrial cooperation lacks financial support.

In order to solve these problems, the researchers proposed the strategy of optimizing the cooperation model based on the theory of industry, university and research, including 10 measures: the measures for cooperative resource strategies are consistent with Ma Yongbin (2010). The conclusions of establishing measures for cooperation and innovation, striving for innovation resources, and creating cooperation and innovation environment are also in line with Xie Zhiyu's point of view. Zhang Hao (2019) The research conclusions of the governance strategy of Chinese universities-industrial cooperation organizations on the perspective of organizational mechanisms, institutional structure and network governance, respectively, Jia Wei (2016). It is proposed to establish and improve the benefit distribution mechanism of industry -university -research work, which is consistent with the results of other strategic research.

Discussion of cooperation model

In the cooperation model, the university, industry, and governments have the lowest scoring of the industrial colleges, indicating that there are outstanding

problems, which is consistent with (Wu Xueshi. 201.P.40). Analysis of the problem, the academic community has gradually reached a consensus: students trained by vocational education school models of vocational education models "organized by vocational colleges and passive participation in enterprises" cannot meet the needs of current economic and social development; they are consistent with Fang Lin You (2013), pointing out that production, university -research cooperation cooperation Specific forms include cooperative training, co -construction joint laboratories, technology investment, co -construction technology centers, patent licenses, patent sale, co -construction doctoral post -doctoral mobility stations, and founding new enterprises. This is also divided into six modes with Zhou Jingzhen (2005): that is, the government instruction -type combination model, government promotion model, corporate lead model, university leading model, co -construction model, and virtual model viewpoint. With Chen Tao (2012) pointed out the specific platform for collaborative innovation, including the company's leading technology research and development center, the university -led industrial and technical research institute, the government -led joint development project, the joint technology transformation and transfer of enterprises, and the training of school -enterprise cooperation Essence The point of view is consistent. There are problems such as incomplete cooperation mechanisms and incomplete systems in the cooperation between vocational universities and industry cooperation

In order to solve these problems, based on the theory of industry -university -research and the theory of classmates, the researchers proposed a strategy of optimizing the cooperation model, including 10 measures. The construction of the government -led cooperation model, the university, industry, and government jointly built the industrial college.

Collaborative innovation model discussion

The collaborative innovation model, the minimum score of sharing laboratories and training bases, shows that the existing problems are more prominent. This is consistent with Hong Yinxing (2015) that the problem of the lack of collaborative innovation platforms in vocational colleges is consistent. It is also consistent with Wang Danxia (2020). It is believed that the School of Industry should have a technical innovation platform.

In order to solve these problems, based on the theory of integration of classmates and production and education, researchers have proposed strategies to optimize the collaborative innovation model, including 10 measures. Establish a strategy of building a vocational university and the National Key Laboratory of the Industry, and select the evaluation system with the partner of the university collaborative innovation center, and Ma Yanqiu (2009) proposed to establish a national key laboratory, Xu Mengdan (2018) to choose partners and other measures.

Management system Discussion

The management system has a sound incentive system and the lowest score, indicating that there are outstanding problems. This is extensive as Zhou Jing (2015) believes that school -enterprise cooperation can be carried out in the field of vocational education, but because the school and enterprises are different from different organizational areas, their value orientation is very unstable, unstable, inadequate, and irregularities universal. The key to solving this problem is to improve and improve the cooperation system for vocational education. The point of view is consistent.

(Yang Hongquan) pointed out: First, there is no vocational education school - enterprise cooperation model that has not formed a legal system guarantee; the second is the lack of a complete legal system for vocational education schools and enterprises; third, the basic issues of vocational education schools and enterprises work The definition is unclear; the point of view is consistent.

In order to solve these problems, based on the theory of integration of classmates and production and education, researchers have proposed strategies for optimizing the management system, including 10 measures. Establish an industrial cooperation management system, improve the talent management system, and improve the cooperation funding guarantee mechanism. (Wu Xueshi, 2014, P3) proposes to the construction of two -subject school -enterprise cooperation system for vocational education based on empirical research results: In order to improve the dual -subject school -enterprise cooperation system Implementation power must be: optimize the layout of vocational education professionalism and industrial structure to improve the effectiveness of the system; build the governance structure of stakeholders' organizations, enhance the implementation of the system; build a dual

-subject school -enterprise cooperation and coordination system, improve the implementation of the system implementation height ; Building a two -main -body school -enterprise cooperation and cooperative operation platform to reduce the difficulty of implementation. Consistent with his opinion.

Recommendations

Cooperative resources

After analyzing the abacus average of the current status of Cooperative resources and the harmony data, it is found that the minimum arithmetic average of "sufficient construction funds between vocational universities and industries" shows that the construction funds in the cooperation between vocational universities and industry cooperation are at a low-level Essence.

Therefore, Guangxi Vocational University should strengthen from the following aspects: First, increase government financial support, communicate with government departments, strive for construction projects, and increase capital investment. The second is to cooperate in depth with the industry and reach a co-construction agreement with the industry, and the industry supports the development of vocational universities. Third, multi-channel integration of funds, increase alumni associations, and propose outstanding alumni to support the development of alma mater. Through the adjustment of the structure, the platform, and the construction mechanism, the connection with the government and the enterprise is enhanced, and the deep integration of the regional economic and social development is promoted.

Cooperation mode

After analyzing the current situation of the current status of the cooperation model and the harmonious data, it is found that the "university, industry, government, and co-construction industry college" has the lowest number of arithmetic averages, indicating that among the cooperation management of vocational universities and industry, universities, industries, and governments Construction of the School of Industry at a low level.

Therefore, Guangxi Vocational University should strengthen it from the following aspects: First, the colleges of universities, industries, governments, and co-

construction of industries. The second is to have three centers for the integration of production and education. They are responsible for the construction of education, teaching and resource development, production -oriented "online and offline" digital practical places, and cross -border open -border open -sharing exchanges and cooperation. The third is to build a smart cloud platform for production and education, which is used for digital operations and management in the construction of the school's project construction, operation management, social resources convergence, high -end precision employment recommendations, and sharing of education and teaching resources.

Collaborative innovation mode

After analyzing the current status of the collaborative innovation model and the harmony data, it is found that the "co -construction and sharing laboratory, training base" on the lowest number of arithmetic averages, indicating that in the management of vocational universities and industrial cooperation, jointly build a shared laboratory The training base is at a lower level.

Therefore, Guangxi Vocational University should strengthen from the following aspects: First, establish a sense of collaborative innovation, win -win cooperation, and strengthen the concept of cooperation and innovation. The second is to jointly build a shared laboratory and training base,

According to the needs of the whole and the needs of the scientific research and innovation system, we will build an intelligent training base. Third, through joint construction of shared training bases, we will enhance deep cooperation with the government and industries and promote the deep integration of regional economic and social development.

Management system

After analyzing the current arithmetic average of the current situation of the management system, the minimum arithmetic average of "with a sound incentive mechanism" shows that the incentive mechanism is at a lower level in the management of vocational universities and industrial cooperation management.

Therefore, Guangxi Vocational University should strengthen from the following aspects: First, build a digital management platform for incentive mechanisms. The second is to strengthen publicity and enhance the enthusiasm of industrial

participation in vocational education. The third is to establish a sound incentive system and complete the evaluation system of the incentive mechanism.

Future research

Between vocational universities and industries, how to better achieve the goal of resource sharing, platform construction, and win-win situation through digital collaborative innovation management platforms. The author will further study this issue in future work.

1. Cooperation of vocational universities and industrial cooperation to jointly build a “dual-teacher” vocational university training mechanism. The training mechanism is very practical. Build a “dual–teacher” vocational teacher training mechanism for cooperation and industry in cooperation with industrial universities and industries; study the model of teacher training from the four aspects of demand analysis, plan design, plan implementation, and effect evaluation; analyze the double The related factors of the technical innovation of vocational faculty in teachers, and formulate strategies to promote technological innovation and provide the transformation rate of results.

2. Establish a system of cooperation between the two main subjects of vocational universities and industry. Study from three aspects,

1)The theory of the relevant system and the relevant system of vocational universities and the industry;"

2)The implementation tracking mechanism of the cooperation system of vocational universities and the industry;

3)Strict management and control of various links implemented. Accurately, scientific, and systematically improve the high level of implementation of the two-subject vocational university and the industrial cooperation system, build a cooperative governance system for the cooperation and governance system of vocational undergraduate and industry, and promote the integration of production and education.

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Appendixes

Appendix A

List of Specialists and Letters of Specialists Invitation for IOC Verification

List of Specialists Invitation for IOC Verification

No	Name-Surname	Workplace
1	Professor Huang Wei	Guangxi University
2	Associate Professor Cen Shaofei	Guangxi City Vocational University
3	Associate Professor Zhang Feng	Guangxi City Vocational University
4	Associate Professor Li Peng	Guangxi Agricultural Technical University
5	Associate Professor Jiang Nianhua	Guangxi Agricultural Technical University

List of Specialists Invitation for Strategies Evaluation

The following list is invited as an evaluation expert to evaluate the feasibility and adaptability of administration strategies in industry cooperation of vocational university in Guangxi.

No	Name-Surname	Workplace
1	Professor Huang Daming	Guangxi University
2	Professor Wei Chaoyi	Guangxi University
3	Professor Yang Chunlan	Guangxi University
4	Professor Ma Huanling	Guangxi Normal University
5	Professor Li Guanghai	Guangxi Normal University

Appendix B

Official Letter

ที่ อว ๐๖๔๓.๑๔/บท ๖๓

มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา
๑๐๖๑ อิสรภาพ ๑๕ แขวงหิรัญรูจี
เขตธนบุรี กรุงเทพฯ ๑๐๖๐๐

๒๐ เมษายน ๒๕๖๖

เรื่อง ขอความอนุเคราะห์เก็บข้อมูลโดยการเข้าสัมภาษณ์

เรียน

สิ่งที่ส่งมาด้วย ๑.แบบสัมภาษณ์ จำนวน ๑ เล่ม

เนื่องด้วย Mr.Ma Yaqin นักศึกษาระดับบัณฑิตศึกษา หลักสูตรครุศาสตรดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับการอนุมัติให้ดำเนินการวิจัยวิทยานิพนธ์ เรื่อง " The Administration Strategies in Industry Cooperation of of Guangxi Vocational University" โดยมีคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ดังนี้

๑. รองศาสตราจารย์ ดร.นิรันดร์ สุธีนิรันดร์	ประธานที่ปรึกษาหลัก
๒. รองศาสตราจารย์ ดร.จิตวิสุทธิ์ วิมุตติปัญญา	อาจารย์ที่ปรึกษาร่วม
๓. ผู้ช่วยศาสตราจารย์ ดร.กุลสิรินทร์ อภิรัตน์วรเดช	อาจารย์ที่ปรึกษาร่วม

ในการนี้คณะกรรมการบริหารหลักสูตรฯ ได้พิจารณาเห็นว่าท่านเป็นผู้เชี่ยวชาญที่มีความรู้ความสามารถที่จะให้ข้อมูล คำแนะนำอันเป็นประโยชน์ต่อการประเมินความเหมาะสมและความเป็นไปได้ของนักศึกษาได้เป็นอย่างดี จึงขออนุญาตให้นักศึกษาเข้าสัมภาษณ์ และกำหนดวันเวลาแก่นักศึกษาที่ท่านสะดวก

จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์แก่นักศึกษาด้วยจะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.คณกร สว่างเจริญ)
คณบดีบัณฑิตวิทยาลัย

งานประสานบัณฑิตศึกษา
โทร ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๔

ที่ อว ๐๖๔๓.๑๔/บท๖๔

มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา
๑๐๖๑ อิสรภาพ ๑๕ แขวงหิรัญรูจี
เขตธนบุรี กรุงเทพฯ ๑๐๖๐๐

๒๐ เมษายน ๒๕๖๖

เรื่อง ขอความอนุเคราะห์เก็บข้อมูลในการทำวิทยานิพนธ์

เรียน

เนื่องด้วย Mr.Ma Yaqin นักศึกษาระดับบัณฑิตศึกษา หลักสูตรครุศาสตรดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับการอนุมัติให้ดำเนินการวิจัยวิทยานิพนธ์ เรื่อง "The Administration Strategies in Industry Cooperation of of Guangxi Vocational University" โดยมีคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ดังนี้

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๒. รองศาสตราจารย์ ดร.จิตวิสุทธิ์ วิมุตติปัญญา	อาจารย์ที่ปรึกษาร่วม
๓. ผู้ช่วยศาสตราจารย์ ดร.กุลสิรินทร์ อภิรัตน์วรเดช	อาจารย์ที่ปรึกษาร่วม

ในการทำวิทยานิพนธ์ครั้งนี้ นักศึกษามีความจำเป็นต้องเก็บข้อมูล เพื่อประกอบการจัดทำวิทยานิพนธ์ ดังนั้น จึงใคร่ขอความอนุเคราะห์ให้นักศึกษาได้ทำการเก็บข้อมูลเพื่อนำไปประกอบการจัดทำวิทยานิพนธ์ให้สมบูรณ์ยิ่งขึ้น

จึงเรียนมาเพื่อโปรดพิจารณาหวังว่าคงได้รับความอนุเคราะห์จากท่านและขอขอบพระคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.คณกร สว่างเจริญ)
คณบดีบัณฑิตวิทยาลัย

งานประสานบัณฑิตศึกษา
โทร ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๔

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เขตธนบุรี กรุงเทพฯ ๑๐๖๐๐

๒๐ เมษายน ๒๕๖๖

เรื่อง ขอความอนุเคราะห์เก็บข้อมูลในการทำวิทยานิพนธ์

เรียน

เนื่องด้วย Mr.Ma Yaqin นักศึกษาระดับบัณฑิตศึกษา หลักสูตรครุศาสตรดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับการอนุมัติให้ดำเนินการวิจัยวิทยานิพนธ์ เรื่อง "The Administration Strategies in Industry Cooperation of of Guangxi Vocational University" โดยมีคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ดังนี้

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ในการทำวิทยานิพนธ์ครั้งนี้ นักศึกษามีความจำเป็นต้องเก็บข้อมูล เพื่อประกอบการจัดทำวิทยานิพนธ์ ดังนั้น จึงใคร่ขอความอนุเคราะห์ให้นักศึกษาได้ทำการเก็บข้อมูลเพื่อนำไปประกอบการจัดทำวิทยานิพนธ์ให้สมบูรณ์ยิ่งขึ้น

จึงเรียนมาเพื่อโปรดพิจารณาหวังว่าคงได้รับความอนุเคราะห์จากท่านและขอขอบพระคุณมา ณ โอกาสนี้

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เขตธนบุรี กรุงเทพฯ ๑๐๖๐๐

๒๐ เมษายน ๒๕๖๖

เรื่อง เชิญเป็นผู้เชี่ยวชาญตรวจสอบความตรงเชิงเนื้อหาเครื่องมือในการทำวิทยานิพนธ์

เรียน Professor Dr.Huang Daming, Guangxi University

สิ่งที่ส่งมาด้วย ๑. เค้าโครงวิทยานิพนธ์ จำนวน ๑ เล่ม
๒. แบบสอบถาม จำนวน ๑ ชุด

เนื่องด้วย Mr. Ma Yaqin นักศึกษาระดับบัณฑิตศึกษา หลักสูตรครุศาสตรดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับการอนุมัติให้ดำเนินการวิจัยวิทยานิพนธ์ เรื่อง "The Administration Strategies in Industry Cooperation of of Guangxi Vocational University " โดยมีคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ดังนี้

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๒. รองศาสตราจารย์ ดร.จิตตวิสุทธิ์ วิมุตติปัญญา	อาจารย์ที่ปรึกษาร่วม
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เรียน Professor Dr.,Wei Chaoyi, Guangxi University

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Appendix C

Research Instruments

Research Questionnaire

Subject: The Administration Strategies in Industry Cooperation of of Guangxi Vocational University

Part I: Respondent status (personal information)

Personal Information (N=95)

	Personal information
Gender:	male female
	Total
Age	26-35 36-45 46-55 56 years old or up56
	Total
Your education:	Bachelor's degree Postgraduate PhD student
	Total
Title Level	Primary Intermediate Deputy high Is a senior
	Total
Time spent in management	1-5 years

	Personal information
	6 - 10 years 11–15 years 16–20 years More than 20 years
	Total

Part II: Questionnaire (variable name)

The following options (5, 4, 3, 2, 1) indicate satisfaction. 5 means very satisfied, 4 means satisfied, 3 means average, 2 means dissatisfied, 1means very dissatisfied.

No	variable	5	4	3	2	1
	Cooperative resources					
1	Government policy support					
2	There is sufficient construction funds between vocational universities and industries					
3	The distribution of interests between universities and industries					
4	Management mechanism between University and industries					
5	Industrial leaders participating in industrial cooperation enthusiasm					
6	Channel for industrial cooperation funds financing					
7	Teachers provide technical support for enterprises					
8	Hardware with win -win cooperation					
9	Have a strong concept of collaborative innovation					
	Cooperation Mode					
1	Have a sound cooperation mechanism					
2	Vocational universities and industries have a clear cooperation plan					
3	Clear division of labor between vocational universities and industries					
4	Vocational universities can provide intellectual property for industries					
5	Average distribution of economic benefits					
6	universities, industry, government, and co - construction of industrial colleges					

No	variable	5	4	3	2	1
7	The industrial cooperation model of co -construction, sharing, and co -management					
8	un universities provide patents for the industry and achieve results transformation					
9	University can provide new technologies and new standards for the industry					
10	with a business -led cooperation model					
	Collaborative Innovation Model					
1	Vocational universities and industries have a collaborative innovation platform					
2	Vocational universities and industries have clear strategic plans					
3	Vocational universities provide innovative technical support for industries					
4	Vocational universities and industries can support each other					
5	The effect of collaborative innovation is good					
6	Co -construction shared laboratory and training base					
7	Detailed plan for regular communication with enterprises					
8	Co-Construction Scientific Research Innovation Team					
9	Have core technology research and development centers					
10	With a reasonable collaborative innovation evaluation system					
	Management System					
1	Have a sound incentive system					
2	Have a sound property rights system					
3	A sound talent management system					
4	Have a sound fund management system					

No	variable	5	4	3	2	1
5	Possessing talent capabilities to enhance internal learning systems					
6	Have the management system of the School of Industry					
7	Have a collaborative innovation platform management system					
8	Laboratory management system with win-win cooperation and co-construction and co-management					
9	With skill training and reward system					
10	Innovative technologies, results conversion and other related reward systems					

Strategy Evaluation Form

To evaluate the feasibility and adaptability strategies in industry cooperation Guangxi voccational University.

Instruction:

Please check each comment box, the score is as follows:

5 indicates the highest adaptability and feasibility.

4 indicates high adaptability and feasibility.

3 indicates average adaptability and feasibility.

2 indicates low adaptability and feasibility;

1 indicates the lowest adaptability and feasibility.

Thanks a lot for your help

Assessment checklist	Feasibility					Adaptability				
	5	4	3	2	1	5	4	3	2	1
Optimize the strategy of Cooperative resources										
1 Increase government policy support										
2 Increase the channels for financing industrial cooperation funds										
3 Formulate a reasonable distribution of industrial cooperation benefits										
4 Establish and improve the management mechanism										
5 Improve the enthusiasm of industrial managers to participate in vocational education										
6 Improve the enthusiasm of managers to participate in vocational education										
7 Increase government funding										
8 Improve teachers' ability to provide technical support to enterprises										
9 Establish the concept of cooperative innovation										
10 Strive for innovative resources and create a cooperative innovation environment										
Optimize the strategy of cooperation model										

Assessment checklist	Feasibility					Adaptability				
	5	4	3	2	1	5	4	3	2	1
1 Establish a cooperation model and mechanism for universities, industries, governments and other multi-main communities with a shared future										
2 Build a shared management rights model										
3 Build a shared usage rights model										
4 Establish a cooperative supervision, management and evaluation mechanism										
5 Build a skills training model led by industry enterprises										
6 Build a government-led cooperation model										
7 Constructing a "double division" structure of cross-border collaboration Teacher team										
8 Strengthen cooperation on new technologies, new standards and new skills										
9 Clarify the division of labor between vocational universities and industries										
Optimize the strategy of the collaborative innovation model										
1 Build a framework system of "cooperation-system-innovation"										
2 Vocational universities and industries										

Assessment checklist	Feasibility					Adaptability				
	5	4	3	2	1	5	4	3	2	1
set up scientific research and innovation teams										
3 National Key Laboratory of Vocational University and Industry										
4 Established core technology R & D center										
5 Form a technological innovation assessment method										
6 Construct a partner selection evaluation system for collaborative innovation centers in colleges and universities										
7 Establish a cooperative operation mechanism for collaborative innovation centers in colleges and universities										
8 Establish a collaborative innovation platform and realize digital management										
9 Establish a collaborative and collaborative innovation performance appraisal and evaluation system										
10 Strengthen exchanges and cooperation between cooperative units										
Optimize the strategy of the management system										
1 Optimizing the leadership of										

Assessment checklist	Feasibility					Adaptability				
	5	4	3	2	1	5	4	3	2	1
vocational university administrators										
2 Establish an industrial cooperation management system										
3 Improve the transformation system of technological achievements										
4 Improve the talent management system										
5 Improve the fund management system										
6 Build a lifelong learning system in the promotion of innovative talents										
7 Build a skilled talent training and reward mechanism										
8 Improve the cooperation fund guarantee mechanism										
9 Improve the industrial cooperation incentive system										
10 Establish a management system for vocational universities to provide technical services for industry										

Outline of structural interview

Expert interview

Research topic: The Administration Strategies in Industry Cooperation of of Guangxi Vocational University

Research Objectives:

1. Understand the administration strategies in industry cooperation of Guangxi Vocational University.

2. To develop the administration strategies in industry cooperation of Guangxi Vocational University.

3.To evaluate the feasibility and adaptability strategies in industry cooperation Guangxi voccational University.

The purpose of the interview is to use the information results of the interview as the framework of the research concept and create a reference for the problem, and to provide a basis for the Administration Strategies in Industry Cooperation of of Guangxi Vocational University

Contents	Questions
Cooperative resources	1. What do you think is the current status of cooperation resources for vocational universities and industrial cooperation? What are the suggestions about cooperative resources?
Cooperation Mode	2. What do you think of the implementation of the cooperation model of vocational universities and industrial cooperation? What are the suggestions about the cooperation model?
Collaborative Innovation Model	3. What do you think of the implementation of the cooperative innovation model of professional technology and industrial cooperation? What are the suggestions about the collaborative innovation model?
Management System	4. What is the implementation of the management system in the process of cooperation between vocational universities and industry? From the perspective of college managers, please propose related strategies for industrial cooperation?

List of universities collecting information

No.	University	City	Population	Sample Group
1	Guangxi Agricultural Vocational and Technical University	Nanning	50	50
2	Guangxi City Vocational University	Congzuo	45	45
Total			95	95

List of interviewees

No.	interviewee	Position	Experi-ence	University
1	Cen Shaofei	Mid-Level Administratortion	15	Guangxi City Vocational University
2	Zhang Feng	Mid-Level Administratortion	15	Guangxi Agricultural Vocational
3	Yang Chaoyi	Mid-Level Administratortion	20	Guangxi City Vocational University
4	Tang minister	Mid-Level Administratortion	20	Guangxi Agricultural Vocational
5	Sun Zhenbao	Mid-Level Administratortion	15	Guangxi City Vocational University
6	Liang Zhumin	Mid-Level Administratortion	12	University of Agricultural Vocational Technology
7	Sun Feng	Mid-Level Administratortion	10	University of Agricultural Vocational Technology
8	Xiang Wei Hua	Mid-Level Administratortion	25	University of Agricultural Vocational Technology
9	Jiang Nianhua	Mid-Level Administratortion	30	University of Agricultural Vocational Technology

Appendix D

The Results of the Quality Analysis of Research Instruments

The Quality Analysis Results of Research Instruments

The Administration Strategies in Industry Cooperation of of Guangxi Vocational University

clause	The Administration Strategies in Industry Cooperation of Guangxi Vocational University	experts					IOC	Validlity
		1	2	3	4	5		
Cooperative resources								
1	Government policy support	1	1	1	1	1	1.00	Valid
2	There is sufficient construction funds between vocational universities and industries	1	1	1	1	1	1.00	Valid
3	The distribution of interests between universities and industries	1	1	1	1	1	1.00	Valid
4	Management mechanism between University and industries	1	1	1	1	1	1.00	Valid
5	Industrial leaders participating in industrial cooperation enthusiasm	1	1	1	1	1	1.00	Valid
6	Channel for industrial cooperation funds financing	1	1	1	1	1	1.00	Valid
7	Teachers provide technical support for enterprises	1	1	1	1	1	1.00	Valid
8	Hardware with win -win cooperation	1	1	1	1	1	1.00	Valid

clause	The Administration Strategies in Industry Cooperation of Guangxi Vocational University	experts					IOC	Validlity
		1	2	3	4	5		
9	Have a strong concept of collaborative innovation	1	1	1	1	1	1.00	Valid
Cooperation Mode								
1	Have a sound cooperation mechanism	1	1	1	1	1	1.00	Valid
2	Vocational universities and industries have a clear cooperation plan	1	1	1	1	1	1.00	Valid
3	Clear division of labor between vocational universities and industries	1	1	1	1	1	1.00	Valid
4	Vocational universities can provide intellectual property for industries	1	1	1	1	1	1.00	Valid
5	Average distribution of economic benefits	1	1	1	1	1	1.00	Valid
6	universities, industry, government, and co - construction of industrial colleges	1	1	1	1	1	1.00	Valid
7	The industrial cooperation model of co -construction, sharing, and co -management	1	1	1	1	1	1.00	Valid

clause	The Administration Strategies in Industry Cooperation of Guangxi Vocational University	experts					IOC	Validlity
		1	2	3	4	5		
8	un universities provide patents for the industry and achieve results transformation	1	1	1	1	1	1.00	Valid
9	9 University can provide new technologies and new standards for the industry	1	1	1	1	1	1.00	Valid
10	with a business -led cooperation model	1	1	1	1	1	1.00	Valid
Collaborative Innovation Model								
1	Vocational universities and industries have a collaborative innovation platform	1	1	1	1	1	1.00	Valid
2	Vocational universities and industries have clear strategic plans	1	1	1	1	1	1.00	Valid
3	Vocational universities provide innovative technical support for industries	1	1	1	1	1	1.00	Valid
4	Vocational universities and industries can support each other	1	1	1	1	1	1.00	Valid
5	The effect of collaborative innovation is good	1	1	1	1	1	1.00	Valid
6	Co -construction shared laboratory and training base	1	1	1	1	1	1.00	Valid

clause	The Administration Strategies in Industry Cooperation of Guangxi Vocational University	experts					IOC	Validlity
		1	2	3	4	5		
7	Detailed plan for regular communication with enterprises	1	1	1	1	1	1.00	Valid
8	Co-Construction Scientific Research Innovation Team	1	1	1	1	1	1.00	Valid
9	Have core technology research and development centers	1	1	1	1	1	1.00	Valid
10	With a reasonable collaborative innovation evaluation system	1	1	1	1	1	1.00	Valid
Management System								
1	Have a sound incentive system	1	1	1	1	1	1.00	Valid
2	Have a sound property rights system	1	1	1	1	1	1.00	Valid
3	A sound talent management system	1	1	1	1	1	1.00	Valid
4	Have a sound fund management system	1	1	1	1	1	1.00	Valid
5	Possessing talent capabilities to enhance internal learning systems	1	1	1	1	1	1.00	Valid
6	Have the management system of the School of Industry	1	1	1	1	1	1.00	Valid
7	Have a collaborative innovation platform management system	1	1	1	1	1	1.00	Valid

clause	The Administration Strategies in Industry Cooperation of Guangxi Vocational University	experts					IOC	Validlity
		1	2	3	4	5		
8	Laboratory management system with win -win cooperation and co -construction and co - management	1	1	1	1	1	1.00	Valid
9	With skill training and reward system	1	1	1	1	1	1.00	Valid
10	Innovative technologies, results conversion and other related reward systems	1	1	1	1	1	1.00	Valid

Reliability

Scale: all variables

Case handling summary

		N	%
case	effective	95	100.0
	Excluded[a]	0	.0
	Total	95	100.0

a. List deletion based on all variables in this program.

Reliability statistics

Cronbach's Alpha	Based on standardized items Cronbachs Alpha	number of terms
.762	.764	39

Appendix E

Certificate of English

มหาวิทยาลัยราชภัฏบรมราชชนก

Bansomdejchaopraya Rajabhat University

This is to certify that

MR. MA YAQIN

Has participated in BSRU-TEST of English Proficiency (BSRU – TEP) Training Course and Achieved BSRU-TEST of English Proficiency (BSRU – TEP) level

C 1

Given on 16th February 2020

(Assistant Professor Dr. Phadet Kakham)

Vice President

หมายเหตุ สัญลักษณ์ที่ปรากฏในสัมฤทธิบัตรหมายถึง

1 ตราพระราชลัญจกร ประจำพระองค์ของพระบาทสมเด็จพระเจ้าอยู่หัวมหิดลอดุลยเดช ที่พระราชทานให้มหาวิทยาลัยราชภัฏ

2 ลายพระหัตถ์ ชื่อมหาวิทยาลัยใช้ประราชทานจาก สมเด็จพระเจ้าพี่นางเธอเจ้าฟ้ากัลยาณิวัฒนา กรมหลวงนราธิวาสราชนครินทร์

3 ตราสุริยมณฑล เป็นตราประจำตำแหน่งของสมเด็จเจ้าพระยาบรมมหาศรีสุริยวงศ์ (ช่วง บุนนาค)

เลขที่ สสวท. ๑๔๓๑๐๑๙๘/ ๒๕๖๒

ผู้เขียน

ผู้ทาน

ตรวจถูกต้อง

นายทะเบียน

BSRU 6018599

Appendix F

The Document for Accept Research / Full Paper

Journal of
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ISSN : 2368 - 7487
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Phone : +91 98840 78453 / Whatsapp : +91 98840 78453

Acceptance Letter

Dear Author(s): **Ma Yaqin , Patchara Dechhome**

Paper ID	JSFS_87
Paper Title	The Administration Strategies in Industry Cooperation of Guangxi Vocational University

This is to enlighten you that above manuscript reviewed and appraised by the review committee members of **BioLEAGUES** and it is accepted for the purpose of publication in the **"Journal of Survey in Fisheries Sciences"**.
You have to send following documents at swathi.p@bioleagues.net before 18th April 2023.

1. **Proof of Registration/Payment - Scanned | Online Received Email**
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2. **Journal of Survey in Fisheries Sciences is** a SCOPUS Indexed Q3 Journal.
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