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THE INFLUENCE OF TECHNOLOGICAL INNOVATION AND MANAGEMENT INNOVATION ON BUSINESS PERFORMANCE: PERSPECTIVE FROM INTELLECTUALIZATION

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Abstract

Under the current intelligentization background, the digital economy driven by the basic technologies such as artificial intelligence, cloud computing and big data is developing more and more rapidly in the global scope, which has produced extensive and profound influence on human production, life and ecological environment. Companies do not need to build large product lines, a large number of procurements on means of production, build a large marketing network and marketing team for product promotion and sales. Therefore, for Internet enterprises, tangible assets are no longer the main source of profit growth and market competitiveness, while intangible assets such as research and development ability, innovation ability, web site traffic, browsing time and downloads etc., which are more essential to the business performance and even the survival of development. For Internet companies, users are their most important resource. Internet enterprises improve the user experience through innovation, resulting in user stickiness, thereby improving business performance. Based on the reality and theory background, this study puts forward the following five research questions: (1) what is the relationship between technological innovation and management innovation? (2) what is the relationship between technological innovation and business performance of Internet companies? In order to answer the above research questions, in the context of intelligence, based on technological innovation, management innovation, user experience and business performance related research, this dissertation constructs the relationship model of technology innovation, management innovation, user experience and Internet enterprise performance, and reveals the influence mechanism of technology innovation and management innovation on Internet enterprise performance. Specifically, through systematizing the related theories and the existing research, this paper puts

forward the logic thought of "intellectual innovation (technological innovation and management innovation) --User experience--The business performance of Internet enterprise". To sum up, this study reveals the mechanism of the impact of technological innovation and management innovation on the business performance of Internet enterprises in the context of intelligence, and finds that technological innovation and management innovation in the context of intelligence enhance user experience, so as to improve the performance of Internet enterprises.

Key Words: Intellectualization; Technological Innovation; Management Innovation; User Experience; Operating Performance.

INTRODUCTION

At present, China's economy has changed from a high-speed development stage to a high-quality development stage, so it is necessary to promote the deep integration of artificial intelligence and the real economy. By 2035, artificial intelligence is expected to promote China's economic growth of 7.111 trillion Yuan, increase labor productivity by 27%, and increase the output value of agriculture, forestry and fisheries, manufacturing, wholesale and retail industries by 1.8%, 2% and 1.7% respectively. It can be predicted that through the cultivation and development of new generation information technologies such as cloud computing, big data and artificial intelligence, and the transformation of the whole process of research and development, production, management and service in various departments of the national economy, the transformation from traditional labor to intelligence will be completed, the replacement productivity will be improved, that is, the intelligent development of economic and social benefits will be realized, the development of China's industries will be revitalized, and the potential of economic growth will be activated.

Data is the core of artificial intelligence. Digital technology has developed rapidly and is closely integrated with all fields of social economy. The economic form is changing from the era of industrial economy to the era of digital economy. Emerging industries, new business forms and new models are constantly emerging. The pace of transformation from traditional industries to digital innovation is accelerating. Digital economy has become the most dynamic, fastest growing and most influential economic activity. Seizing the opportunity of the development of the digital economy has become a strategic choice for countries around the world to gain a competitive advantage in the future. Digital economy is an economic development form that has reached a high consensus in the world so far, and is the general trend. With the increasing frequency of information technology innovation activities in China, digital economy has become an important driving force for digital industrialization and industrial digitalization, and an important driving force for China's economic development.

Under the environment of digital economy, great changes have taken place in infrastructure, growth momentum, economic form, operation mode, distribution system and development

stage. Digital economy has had a disruptive impact on many industries, and its development mode and path are difficult to copy the successful experience of traditional industries. Compared with the industrial economic environment, the internal and external environment faced by Internet enterprises has greater uncertainty and complexity. Technological innovation and management innovation have become important strategic means for Internet enterprises to cope with market competition and achieve sustainable growth. Under the background of intellectualization, it has become an important theoretical and practical problem to be studied and solved in the process of digital upgrading of Internet enterprises to explore innovation strategies and methods suitable for Internet enterprises and solve the problems faced by Internet enterprises in the process of digital transformation and innovation by using empirical analysis.

This paper takes Internet enterprises as the object, and studies the mechanism of technological Innovation and management innovation on operating performance of Internet enterprises under the background of intellectualization through empirical analysis. Firstly, the independent variable (technological innovation, management innovation), the mediating variable (user experience) and the dependent variable (business performance) are identified by the method of literature research, which establish the theoretical model and framework of the study, then the theoretical hypotheses are put forward for the relationship between the variables. Secondly, using the 402 valid sample data obtained from the questionnaire survey, the statistical analysis methods of typical correlation analysis, factor analysis and multiple regression are used to empirically test the theoretical hypotheses. The results show that technological innovation has a significant positive effect on business performance. Therefore, enterprises should enhance the ability of technological innovation to improve business performance. Management innovation also has a significant positive effect on business performance, so enterprises should promote management innovation to improve business performance. User experience plays a mediating role in the logical relationship between technological innovation, management innovation and business performance. Therefore, in practice, Internet enterprises should pay attention to the cultivation and promotion of enterprise's technological innovation ability, provide financial support for technological innovation by improving the intensity of R & D investment, provide innovation power for enterprises by introducing high-quality innovative talents, and take advantage of synergies by cooperating with other enterprises, universities and scientific research institutes. Secondly, Internet enterprises should pay attention to the cooperation of management innovation. The key of management innovation is the senior managers of enterprises, and the innovative consciousness and experience of managers are the guarantee of management innovation of enterprises. Therefore, it is necessary to strengthen the training of senior managers, analyze and learn the experience of other enterprises in management innovation through the exchange and cooperation between enterprises, selectively absorb and apply it in combination with the enterprise's own situation, and pay attention to the construction of enterprise innovation culture and atmosphere. In addition, enterprises should also pay attention to the coordinated

development of management innovation and technological innovation, improve user experience, thus promote the improvement of enterprise operating performance.

Background of Study

In March 2015, at the NPC and CPPCC sessions, Ma Huateng put forward the "internet plus" initiative, that is, to use Internet technology to combine the internet with all walks of life, encourage industrial innovation, promote cross-border integration, and create a new ecology benefiting people's livelihood in new fields. Premier Li Keqiang also mentioned in his government work report to promote the "internet plus" action plan, which reflects the great significance of the new era of the Internet industry. The formal formation of the "internet plus" concept is marked by the official issuance of guidelines by the State Council in July 2015 to actively promote the "internet plus" action. In fact, "internet plus" represents the innovation 2.0 mode of the Internet industry in the new form and new situation of social and economic development. It refers to relying on Internet Information Technology, giving full play to the advantages of the internet, realizing the further integration of the internet and traditional industries, promoting technological progress, efficiency improvement, organizational change, promoting the transformation and upgrading of industries and economies, promoting the innovation of the real economy and the development of productive forces, promoting entrepreneurship and innovation, realizing the overall growth of social wealth, and realizing the sustainable development of our economy. The continuous development of the Internet industry has promoted the integration of traditional industries and internet technology, "internet plus" is deeply integrated into all fields of society at an unprecedented speed, creating a new development mode, which has a major overall and strategic impact on China's economic and social development. "Internet" is the core word of the "internet plus" concept. The foothold and starting point of "internet plus" is the Internet industry itself. In order to realize the deep integration of Internet innovation achievements and economic and social fields, we must first actively develop the Internet industry and actively play the role of optimizing the allocation of social resources on the basis of existing advantages.

Problem Statement

Internet enterprises are facing many challenges in the fierce market competition, and their business performance restricts their further development. At the same time, the development of Internet enterprises cannot be separated from the standardized operation and scientific governance of the enterprises themselves. Scientific governance first requires enterprises to effectively assess their performance, from which they can correctly understand themselves, identify problems and solve them. Therefore, if Internet companies want to continue to be "good for a long time" in this technological change, the first thing they need to do is to truly evaluate their business performance, find ways to improve it, and formulate the right business development strategy. Therefore, it is particularly important to discuss how to improve the

business performance of the internet enterprises.

Research Objectives

Based on the research problems of this paper, the research objectives of this paper are as follows:

First, the relationship between technological innovation, management innovation and enterprise performance are sorted out. This study analyzes independent variable, technological innovation from three perspectives of technological innovation support, technological innovation culture and technological innovation output, independent variable, management innovation from four perspectives of resource integration innovation, resource allocation innovation, resource reconstruction innovation and relying on external resources, and dependent variable, business performance from three perspectives of financial performance, growth performance and innovation performance. On the one hand, this study analyzes the relationship between technological innovation and financial performance of Internet enterprises, the relationship between technological innovation and growth performance of Internet enterprises, and the relationship between technological innovation and innovation performance of Internet enterprises, to sort out the relationship between technological innovation and business performance. On the other hand, this dissertation analyzes the relationship between management innovation and the financial performance of Internet enterprises, the relationship between management innovation and the growth performance of Internet enterprises, the relationship between management innovation and the innovation performance of Internet enterprises, to sort out the relationship between management innovation and the business performance of enterprises.

LITERATURE REVIEW

On the basis of clarifying the research background and significance, research issues and research framework, this chapter mainly introduces the literature review and management related theories. First of all, the theory of industrial chain, value chain, innovation and management by objectives are systematically expounded; second, the key concepts involved in the research, such as technological innovation, management innovation, user experience and business performance, are systematically sorted out; finally, based on the above theoretical basis, the hypothesis of this study is put forward, the theoretical model and research framework of this study are constructed, which lays the groundwork for the empirical analysis in the following paragraphs.

Operating performance

How to improve the level of business performance has been the core issue of strategic management research. In today's dynamic, complex and unpredictable global economy, getting good business performance has gradually become the key to improve the competitiveness and

overall performance of enterprises. Because of this, business performance has become the forefront of management research. Among them, the influencing factors of business performance, that is, how to improve business performance, is the focus of existing research (Huang, Chen, 2010).

Business performance is a complex and extensive concept. For a long time, the connotation of innovation has become more and more abundant, but the definition of business performance has not been made in a unified framework. The existing studies mainly regard business performance as the result of business management activities, and think that business performance is a construct reflected by multiple dimensions or indicators. Campell et al. (1977) believe that business performance can only be defined in theory, but can not be given a practical definition. Ruekert, Walker, and Roering (1985) argue that business performance consists of three components such as effectiveness, efficiency, and adaptability of the firm. Foreign scholars' views on the definition of enterprise performance can be divided into three categories:(1) performance is not a result, but a behavior;(2) performance is a result;(3) performance is a combination of behavior and result. Some domestic scholars have discussed the concept of enterprise performance, as shown in Table 2.1.

Table 0-1 The concept of enterprise performance

Year	Scholars	Related Discourses
2010	Yuan Ping	It is believed that business performance mainly includes financial performance and growth performance. The effectiveness or performance of an enterprise is the business performance, and the business performance can be used as an indicator to measure the degree of achievement of the strategic objectives of the enterprise, reflecting the effectiveness and operational efficiency achieved by the enterprise in a certain period of time
2017	Liu Gang	The results achieved in the four areas of financial value, operational efficiency, strategy realization and customer value in the course of operating are the business performance
2019	Chen Ya Wen	The economic result of the sales profit obtained in the course of business activity is the business performance
2020	Wang Rui	Using AHP method to construct evaluation indexes for business performance of unicorn companies: profitability, risk management ability and financial capability, etc.

Technological Innovation

Solow (1957) studies the emergence and development of technological innovation on the basis of Schumpeter's innovation theory. He believes that the first thing to do is to create realistic conditions suitable for the realization of new ideas. On the basis of realistic conditions, new ideas are produced, and technological innovation is produced on the basis of new ideas. John et al. (1962) believed that technological innovation is a collection of a series of reforms carried out by enterprises to improve their operating performance, and its process is divided into the formulation of R & D, the formulation of plans, the investment of capital and R & D personnel and other links. Myers et al. (1969) believe that technological innovation has a greater impact on business performance than other innovation processes, and give the definition of technological innovation: the collection of enterprise technological change activities.

Technological innovation means that the enterprise creates new processes and develops new products under the guidance of new ideas and thoughts, and the enterprise improves the products with lower cost and higher quality, provides better services and gains advantages in the fierce market competition compared with other enterprises. Technological innovation mainly refers to the development of new technologies, or the application innovation of existing technologies, that is, the innovation of production technology. The comprehensive definition of technological innovation is given by Freedman on the basis of previous research results. He believes that technological innovation is the first time that enterprises combine new processes with new systems and commercialize new products and services for the first time. Freeman (1982) defined the connotation of technological innovation from the economic level for the first time. The process in which enterprises push new products, new technologies or new processes to the market and realize commercialization is technological innovation. Through the analysis of the existing foreign literature, it is found that the definition of technological innovation by foreign scholars is based on the perspective of process, that is, technological innovation starts from the formation of new thinking and new ideas, and through repeatedly solving various problems in the transformation of ideas to practice, finally, the new projects with certain value can be successfully promoted and implemented. Some scholars at home and abroad have also conducted in-depth research on the definition of technological innovation theory, as shown in Table 2.4.

Table 0-4 Research related to technological innovation

Year	Scholars	Related Discourses
1993	Liu Shuilin	He believed that technological innovation mainly includes the generation of ideas, research and design of new products and new processes, production of products and commercialization of products in the market, and the process from the generation of ideas to the marketization of products is technological innovation.

1998	Fu Jiaji	He studies technological innovation based on a process perspective and considers technological innovation as the process from research and development to the introduction of innovative results to the market. In this process, companies integrate resources through technical, management, and marketing activities to rapidly introduce new products and processes to the market, thus occupying a favorable competitive position
2000	Xu Qingrui	He defines technological innovation based on a process perspective. An enterprise first generates a new idea, and the whole process from the idea to the production of the product or process development and design, bringing the product to the market, commercializing it, and the enterprise gaining economic benefits is technological innovation
2001	Atuahene et al.	Technological innovation means that enterprises provide differentiated products and services to society, i.e. the products and services bring different experiences to users, such as considerate services, unique aesthetic design of products, excellent quality of products and rich performance of products, etc.
2012	Shu, etc.	A company introduces a product to the market that is different from its existing product, which is a technological innovation.
2014	Duan Shan	The regional enterprise Technological innovation composite index is used to measure the technological innovation capability of enterprises, in which the regional enterprise Technological innovation composite index mainly includes three aspects, such as innovation input, organization and output
2020	Zhi-Fang Wan, Xiaolin Ma	Technological innovation propensity, resource investment capability, research and development capability, manufacturing capability, innovation management capability and marketing capability constitute the technological innovation capability

Domestic and foreign scholars, based on existing research, classify technological innovation into narrow and broad categories according to the breadth and depth of innovation: based on a broad perspective, technological innovation includes not only the process of applying and marketing technological innovation results, but also the research and development of new products and new processes; based on a narrow perspective, technological innovation is only the research and development of new products and new processes, that is, the introduction of new ideas, new production conditions and new production factors into the production system. The technological innovation in this research will adopt a narrowly defined concept of technological innovation, and believe that technological innovation is the use of new thinking, new technologies and new ideas by Internet companies to produce new products, create new processes, and improve user

experience, thereby enhancing the operating performance of Internet companies. Traditional enterprises do not attach importance to technological innovation, mainly through large-scale production of low-cost products, using scale effect to obtain profits, to obtain competitiveness in the fierce market competition. Due to the low technical content and the same performance of the products produced by traditional enterprises, and the larger the scale, the thinner the cost margin, it is difficult to improve the business performance. With the user's attention to sensory experience, content experience, functional experience and value experience, the way that companies provide users with products of similar performance, low quality and low price, and use the advantage of price alone to maintain the competitiveness of enterprises is obsolete. Therefore, in order to improve the business performance and enhance the market competitiveness, Internet enterprises need to improve the product differentiation through technological innovation to improve the user experience and improve the customer stickiness. Technological innovation is an important way to enhance the business performance and competitiveness of enterprises, so that enterprises can achieve development and progress. It is very necessary to measure the level of technological innovation of an enterprise to analyze the development of an enterprise.

Management innovation

From the 1980s to the 1990s, Japanese enterprises defeated American enterprises with significant technological advantages through management innovation practices such as Total Quality Management and lean production, and promoted Japan to become the first model to realize industrial power through management innovation, so management innovation has attracted increasing attention from the industry and academia. In the past ten years, researchers have conducted a lot of research on the driving factors of management innovation (Mol & Birkinshaw, 2009; Vaccaro et al., 2012; Hecker & Ganter, 2013; Mol & Birkinshaw, 2014; Lin et al., 2016), process mechanism (Wright et al., 2012; Lin & Su, 2014; Scarbrough et al., 2015; Xue & Zhang, 2018), and impact effect (Hollen et al., 2013; Camison & Villar-Lopez, 2014 ; Walker et al.)

METHODOLOGY

First of all, this section introduces the research methods, including literature research methods, questionnaire survey, empirical analysis. According to the actual situation of the development of Internet enterprises, the literature research methods, questionnaire survey, empirical analysis are used to explore the theory and conduct empirical analysis. Secondly, this chapter defines the four variables of enterprise performance, technology innovation, management innovation and user experience, and summarizes and refines the measurement dimensions of the four variables on the basis of previous studies. Thirdly, the scale is designed and developed according to the measurement dimensions of four above variables. On the basis of the scale, we further clarify the object and purpose of the survey, determine the sampling method and sample size, carefully

design the questionnaire, and use the sample data obtained from the questionnaire survey to test the validity and reliability, which provides a solid foundation for the empirical test in the following. In addition, the process and results of data collection are described, mainly introducing the nature of the enterprise, the region where the enterprise is located, the number of employees, the operating years of the enterprise, the total assets of the enterprise and other information. Finally, this chapter introduces the four methods of descriptive statistical analysis, variable reliability and validity analysis, correlation analysis and regression analysis, and expounds the moral considerations of this dissertation.

Research Design

This paper uses three methods: literature research, questionnaire survey and empirical analysis to explore the impact mechanism of technological innovation on operating performance of Internet enterprises under the background of intellectualization. Firstly, this study systematically reviews the existing theories and related literature to provide theoretical guidance for the construction of the research framework; second, it uses questionnaire survey to collect relevant data on the four variables of technological innovation, management innovation, user experience and enterprise operating performance; third, it empirically tests the research hypotheses designed in the theoretical framework. Therefore, this study provides multiple guarantees for the scientificity and rigour of the research content through literature review, questionnaire survey and empirical test.

Literature research method mainly refers to a method of studying the literature results of relevant research fields, collecting and analyzing the relevant information of research contents, understanding the latest research results in this field, and thus comprehensively grasping the research problems to be studied. In the research process, through consulting the relevant paper or electronic materials, this dissertation collects the corresponding theoretical evidence on the problems of technological innovation, management innovation, user experience and business performance. The main research contents and possible future research directions of relevant theories are clarified, and the collected data are sorted, and the different views put forward by various scholars are analyzed and studied, to further discuss the current research directions, research contents and research progress in the impact mechanism of technological innovation and management innovation on operating performance of Internet enterprises in China. Key research: the mechanism of action of technological innovation, management innovation and user experience? Does user experience play a mediating role between technological innovation, management innovation and business performance? What is the mechanism of technological innovation, management innovation and enterprise performance? To build the overall research framework of the dissertation and the theoretical model of the impact of technological innovation on operating performance of Internet enterprises in China, and lay a solid theoretical foundation for the study of this dissertation. In terms of access to information, it mainly includes network and library, in which network information mainly comes from "CNKI (China National Knowledge Infrastructure)", "Wanfang database" and other network

databases.

Questionnaire survey

Questionnaire survey is one of the important research methods in this dissertation, on the basis of reading the literature related to variables, collect and sort out the measurement questionnaires of variables, and combine with the actual content of this study to fine-tune and design the questionnaire in line with this study, then according to the dissertation research object to carry out the questionnaire distribution and collection, finally to organize the data obtained from the questionnaire. First of all, based on the relevant channels, materials and information available in this dissertation, the survey object of this study is the internet enterprises in the areas of China with more developed intelligent industries, to understand the basic situation of these Internet enterprises in the process of globalization opportunities and de-globalization challenges. Secondly, this study mainly uses the scale used in the existing literature, and then makes some adjustments according to the content of this study. The questionnaire was measured by 5-point Likert scale, which was improved by American social psychologist Likert in 1932 on the basis of the original summated rating scales. In the process of designing the questionnaire, we have made great reference to the contents used by the predecessors, especially from the existing doctoral dissertations of relevant contents, and have fully communicated with the peers from the business community and listened to their valuable opinions. Finally, the questionnaires are distributed and collected mainly through direct online filling, and the URLs are sent directly to the relevant Internet companies, so that the respondents can fill in directly online and the results are saved directly in the server.

Population / Sampling / Unit of Analysis

This study obtains the required sample data by questionnaire survey, and mainly selects Internet enterprises in Guangdong, Jiangsu, Zhejiang, Beijing and Shanghai as the research object. These areas belong to the provinces and cities of China with more developed intelligent industries, which can better reflect the relationship between innovation and operating performance of Internet enterprises under the background of intellectualization.

The sample selection adopts the way of sampling survey, sampling survey refers to selecting only a part of the research objects, investigating and studying this part of the objects, and then inferring and summarizing the overall characteristics of the sample according to the sampling results. The method of sampling survey has the advantages of strong operability, simple operation, low cost, short time, less objective constraints and rich information. In view of the sampling survey adopted, in order to make the results more comprehensive and the data more reliable, the subjective sampling method is adopted to distribute the questionnaires to the internet enterprises all over China, thus ensuring that the questionnaires involve all regions of China as much as possible. The questionnaire survey was distributed online, and a total of 436 original data samples were obtained. Excluding the invalid questionnaires that were incomplete or had

obvious errors, 402 valid questionnaires were collected, and the effective completion rate of the questionnaire was 92.20%. The survey covered grass-roots, middle-level and high-level executives of Internet enterprises. The survey involved enterprises in 12 provinces, municipalities directly under the central government and special administrative regions of China, including state-owned enterprises, private enterprises and foreign-invested (joint venture) enterprises, with the age of enterprises ranging from half a year to more than 5 years.

Instrumentation

This paper mainly discusses the relationship between technological innovation, management innovation, user experience and operating performance of Internet enterprises under the background of intellectualization, and the mediating role of user experience. Among them, the independent variable is technological innovation and management innovation, the dependent variable is the operating performance of Internet enterprises, and the mediating variable is user experience. In this study, the selection of variables and the determination of the measurement scale mainly refer to the domestic and foreign research literature, and based on the actual situation of China's Internet enterprises under the background of intellectualization, the measurement scale has been adjusted and revised appropriately, all the designs meet the research needs. The main variable scale for this study is described below. The selection of the scale follows the principles of universality and uniqueness, which not only draws lessons from the classical scales cited more times at home and abroad, but also reflects the unique intelligent research situation and the uniqueness of the research content. First of all, scale development is carried out for variables (user experience) that lack mature scales. Based on existing theories and related research, this research provides operational definitions of variables, combines case materials to further explore the dimensions of technological innovation and management innovation, and compiles an item pool. After consulting the opinions of experts and scholars in the Internet field, business managers, and members of the research team, the scale was improved many times, and the measurement items were modified and perfected through the questionnaire pre-test, and finally a scale that meets the requirements of reliability and validity was obtained. Secondly, on the basis of the maturity scale with high academic citation rate and recognition, according to the research object, research content and research situation, it is modified to form the measurement scale of user experience. Finally, the measurement scale of internet business performance comes from mature measurement items adopted by many studies. This dissertation integrates the measurement items of business performance of previous studies, and selects the items consistent with the content of this study to measure the operating performance of Internet enterprises. All the scales used in this study were 5-point Likert scale, which was divided into five levels: "Strongly disagree", "Disagree", "Neither agree or disagree", "Agree" and "Strongly agree". According to the design of the scale, we uniformly express technological innovation, management innovation, user experience and enterprise performance as TI, MI, UE and OP respectively, in which TI1, TI2 and TI3 respectively represent innovative technological support, technological innovation culture and technological innovation output, MI1, MI2, MI3 and MI4

respectively represent resource integration innovation, resource allocation innovation, resource reconstruction innovation and external resources utilization, UE1, UE2, UE3 and UE4 respectively represent sensory experience, content experience, functional experience and value experience, and OP1, OP2 and OP3 respectively represent financial performance, growth performance and innovation performance,

Reliability & validity test

According to the need of the research model and hypothesis testing, this study uses the statistical software SPSS 24.0 and Amos24.0 to carry on the data analysis and the empirical test. It mainly includes two aspects: first, the reliability and validity test of the scale. We use reliability analysis and confirmatory factor analysis to test the reliability and validity of the scale.

Reliability reflects the internal consistency and stability of test results, reliability analysis is an effective analysis method to measure the stability and reliability of comprehensive evaluation system. Zhang and Tian (2007) applied reliability to psychological test to test the stability of people's ability, personality and skills. Zhang et al. (2012) used reliability analysis method to measure the relative reliability of five comprehensive evaluation models. Zhang and Peng (2016) used reliability analysis method to measure the reliability of scientific and technological achievements evaluation model and evaluation experts.

The reliability analysis of this study is mainly to test the internal consistency coefficient of the scale. The most commonly used intrinsic reliability coefficient is the Cronbach's alpha coefficient. In general, the Cronbach's alpha coefficient is above 0.7, which means that the scale has high internal consistency. If the Cronbach's alpha coefficient is 0.5, the reliability can be accepted but low. The Cronbach's alpha coefficient is 0.35, which is the low reliability level. It is generally believed that when the Cronbach's alpha coefficient is above 0.7, which is the ideal level. In this study, Cronbach's alpha coefficient is used to test the reliability of the scale.

Validity refers to the degree of validity of the measurement item, that is, the degree to which the measurement tool can measure the characteristics of all variables. The measurement instruments used in this study are adapted or borrowed from the existing maturity scale, so the content validity of the measurement can be guaranteed. Sun and Zhou (2005) discussed the basic principle of exploratory factor analysis in detail, elaborated its basic process and occurrence mechanism, and summarized its application in the fields of education and psychology. Jiang et al. (2017) studied the impact of technology opportunity identification on enterprise technological innovation based on exploratory factor analysis.

Reliability test

Reliability is used to test whether the results of the questionnaire have stability and consistency,

and to measure the authenticity and reliability of the results. Generally the larger the reliability value, the more reliable the results of the questionnaire survey. Cronbach's alpha coefficient method is commonly used in questionnaire survey, and the data results are reflected by measuring Cronbach's alpha coefficient. The relationship between Cronbach's alpha coefficient and data credibility is shown in Table 3.5.

Table 0-5 Table of Reliability test

Serial number	Range of Cronbach's Alpha values	Credibility
1	0.60-0.65	Data is preferably not be used
2	0.65-0.70	Data is acceptable
3	0.70-0.80	Data is quite good
4	0.80-0.90	Data is very good

It can be seen from Table 3.6 that the Cronbach's Alpha coefficients of technological innovation and business performance are 0.768 and 0.782, respectively, between 0.70 to 0.80. It can be seen that the questionnaire data of technological innovation and business performance is very good; the Cronbach's Alpha coefficients of management innovation and user experience are respectively It is 0.806 and 0.817, between 0.80 and 0.90, it can be seen that the questionnaire data for management innovation and user experience is very good. The test results show that the reliability of the questionnaire on the impact of technological innovation on operating performance of Internet enterprises under the background of intellectualization is high.

Table 0-6 Reliability of the scale

Dimensionality	Number	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Technological innovation	A1	0.727	0.768
	A2	0.721	
	A3	0.727	
	A4	0.738	
	A5	0.720	

	A6	0.734	
	A7	0.720	
	A8	0.740	
	A9	0.725	
	A10	0.724	
	A11	0.733	
	B1	0.793	
	B2	0.794	
	B3	0.794	
	B4	0.800	
Management Innovation	B1	0.799	0.806
	B2	0.798	
	B3	0.795	
	B4	0.793	
	B5	0.794	
	B6	0.797	
	B7	0.795	
	B8	0.793	
	B9	0.797	
	B10	0.798	
	B11	0.797	
	B12	0.800	
	C1	0.805	
User Experience	C2	0.808	0.817
	C3	0.806	
	C4	0.807	
	C5	0.804	

	C6	0.804	
	C7	0.803	
	C8	0.811	
	C9	0.806	
	C10	0.805	
	C11	0.803	
	C12	0.803	
	C13	0.801	
	C14	0.805	
Operating Performance	D1	0.744	0.782
	D2	0.749	
	D3	0.757	
	D4	0.748	
	D5	0.754	
	D6	0.745	
	D7	0.758	
	D8	0.760	

Validity test

Validity analysis of questionnaire survey data is to test and measure whether the results of questionnaire survey can accurately reflect the purpose and requirements of the survey, and to judge the accuracy of the characteristics of the results. The higher the validity of the test, the more accurately the data results show the characteristics of the item to be tested, and conversely, the lower the validity, the less accurately the data results show the characteristics of the item to be tested,

Validity refers to the degree of validity of the measurement item, that is, the degree to which the measurement tool can measure the characteristics of all variables. The measurement instruments used in this study are adapted or borrowed from the existing maturity scale, so the content validity of the measurement can be guaranteed. We used exploratory factor analysis (EFA), KMO and Bartlett's test of sphericity. The purpose of EFA analysis is to confirm the scale factor

structure or a group of variable model, need to consider and determine the number of factors or constructs selection, at the same time, the group of factor loading. Exploratory factor analysis is to achieve the construct validity of the scale or questionnaire.

(1) KMO and Bartlett's test of sphericity

As can be seen from Table 3.7, the KMO values of the technology innovation scale, the management innovation scale, the user experience scale and the business performance scale are 0.824, 0.842, 0.866 and 0.780 respectively, which are all greater than 0.7, indicating that the data of four scales are very suitable for factor analysis. The approximate chi-square values of Bartlett's test of sphericity are 374.869, 682.798, 643.848 and 215.893, and the degrees of freedom are 55, 120, 91 and 28, respectively, with P values of 0.000 and less than 0.01, which passed the significance test at 1% significance level. Therefore, the data of technology innovation scale, management innovation scale, user experience scale and business performance scale are very suitable for factor analysis.

Table 0-7 Test results of KMO and Bartlett's test of sphericity

Technological innovation Scale	KMO		0.824
	Bartlett's Test of Sphericity	Approx. Chi-Square	374.869
		Degree of freedom	55
		Significance level	0.000
Management Innovation Scale	KMO		0.842
	Bartlett's Test of Sphericity	Approx. Chi-Square	682.798
		Degree of freedom	120
		Significance level	0.000
User Experience Scale	KMO		0.866
	Bartlett's Test of Sphericity	Approx. Chi-Square	643.848
		Degree of freedom	91
		Significance level	0.000
Business Performance Scale	KMO		0.780
	Bartlett's Test of Sphericity	Approx. Chi-Square	215.893
		Degree of freedom	28

		Significance level	0.000
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FINDINGS & DISCUSSIONS

First, this section introduces the respondents of the questionnaire, including the nature of the enterprise where the interviewee is located, the region where the enterprise is located, the number of employees, the operating years of the enterprise, the total assets of the enterprise and other information, and gives a general introduction to the results of the questionnaire.

Secondly, the hypotheses in the research model of this dissertation are tested. These models include: technological innovation and user experience model test, management innovation and user experience model test, technological innovation and enterprise operating performance model test, management innovation and enterprise operating performance model test, user experience and business performance model test, model test of the mediating role of user experience between technological innovation and business performance, and model test of the mediating role of user experience between management innovation and business performance. Finally, through the correlation analysis and regression analysis of these relationships, the accuracy of the hypothesis is verified, and the literature review theory and research findings are discussed.

Profile of Respondents

The respondents of this questionnaire survey are mainly technical personnel and managers at all levels in the Internet industry. When selecting the sample enterprises, the main target objects are Internet enterprises in Guangdong, Jiangsu, Zhejiang, Beijing and Shanghai, which belong to the provinces and cities of China with more developed intelligent industries. And the enterprise scale, enterprise nature and operating years of enterprise are used as reference elements.

Judging from the sample structure, a total of 436 questionnaires were collected from 12 provinces (municipalities directly under the central government and special administrative regions) in this survey. Excluding the invalid questionnaires that were incomplete or had obvious errors, 402 valid questionnaires were obtained, of which Guangdong, Jiangsu, Zhejiang, Beijing and Shanghai ranked in the top five, accounting for 89.96% in total. These regions are all the provinces and cities of China with more developed intelligent industries. (as shown in Table 4.1).

Table 0-1 Source of respondents

Source	Number of samples	Proportion
Guangdong	135	33.58%

Jiangsu	96	23.88%
Zhejiang	66	16.42%
Beijing	39	9.70%
Shanghai	27	6.38%
Other	39	11.04%
Total	402	100.00%

2. The respondents of questionnaire covers the top, middle and grass-roots managers and general employees of the enterprise, of which the top managers account for 27.86%, the middle managers account for 21.39%, the grass-roots managers account for 23.38%, and the general employees account for 27.37%, as shown in Table 4.2.

Table 0-2 Proportion of survey respondents' positions

Options	Subtotal	Proportion
Senior Management	112	27.86%
Middle Management	86	21.39%
Grassroots managers	94	23.38%
General Employees	110	27.37%
Total	402	100%

3. In terms of the nature of enterprises, 49.60% are private enterprises, 26.12% are state-owned enterprises, and 24.38% are Sino-foreign cooperation /Sino-foreign joint venture /wholly foreign-owned enterprises, basically covering the enterprise types of major Internet enterprises, as shown in Table 4.3.

Table 0-3 Proportion of business nature

Options	Subtotal	Proportion
State-owned enterprises	105	26.12%
Private enterprises	199	49.60%
Sino-foreign cooperation / Sino-foreign joint venture / wholly foreign-owned	98	24.38%
Total	402	100.00%

4. In terms of the establishment time of enterprises, 40.80% of enterprises have been established for more than 10 years, 15.42% of enterprises have been established for 5-10

years, 17.16% of enterprises have been established for 3-5 years, 16.17% of enterprises have been established for 1-3 years, and 10.45% of enterprises have been established for less than 1 year, as shown in Table 4.4.

Table 0-4 Proportion of enterprise establishment time

Options	Number of samples	Proportion
Less than 1 year	42	10.45%
1-3 years	65	16.17%
3-5 years	69	17.16%
5-10 years	62	15.42%
More than 10 years	164	40.80%
Total	402	100%

5. In terms of the working years of the respondents, the working years within 1 year account for 21.89%, the working years within 1 to 3 years account for 19.40%, the working years within 3 to 5 years account for 21.39%, and the working years above 5 years account for 37.32%, as shown in Table 4.5.

Table 0-5 Working years of the respondents in company

Options	Number of samples	Proportion
Within 1 year	88	21.89%
1-3 years	78	19.40%
3-5 years	86	21.39%
More than 5 years	150	37.32%
Total	402	100%

6. In terms of enterprise operation scale, the proportion of large-scale enterprises is 19.15%, the proportion of large-scale enterprises is 18.66%, the proportion of medium-sized enterprises is 25.37%, the proportion of small-scale enterprises is 13.18%, and the proportion of small-scale enterprises is 23.64%.

Table 0-6 Proportion of enterprise scale

Options	Number of samples	Proportion
Super-Large	77	19.15%
Large	75	18.66%
Medium	102	25.37%
Small	53	13.18%
Very Small	95	23.64%
Total	402	100%

Descriptive statistical analysis of variables

It is necessary to carry out descriptive statistical analysis on each variable and its dimension data before making hypothesis test on the survey data. The following is a descriptive statistical analysis of the sample data from the 402 valid questionnaires on the four variables of technological innovation, management innovation, user experience and business performance, and the results are shown in Table 4.7.

Table 0-7 Descriptive statistical analysis of sample data for each variable

Variables	Dimensionality	Number of samples	Minimal value	Maximum value	Mean	Standard deviation	Variance
Technological innovation	Technological innovation Support	402	1.000	5.000	3.046	0.941	0.886
	Technological innovation Culture	402	1.000	5.000	3.104	0.739	0.545
	Technological innovation output	402	1.000	5.000	2.948	0.903	0.816
Management Innovation	Resource Integration Innovation	402	1.000	5.000	3.047	0.816	0.666

	Resource allocation innovation	402	1.000	5.000	3.151	0.723	0.523
	Resource Reconstruction Innovation	402	1.000	5.000	3.116	0.877	0.770
	Use of external resources	402	1.000	5.000	2.961	1.034	1.069
User Experience	Sensory Experience	402	1.000	5.000	3.161	0.859	0.738
	Content Experience	402	1.000	5.000	3.004	0.857	0.734
	Functionality Experience	402	1.000	5.000	3.086	0.803	0.645
	Value Experience	402	1.000	5.000	3.020	0.847	0.717
Business Performance	Financial Performance	402	1.000	5.000	3.069	0.894	0.799
	Growth Performance	402	1.000	5.000	3.035	0.840	0.706
	Innovation Performance	402	1.000	5.000	3.000	0.967	0.935

Research Objective 1 (R.O.1): Impact of technological innovation on operating performance of internet enterprises

This section explores the relationship model between technological innovation and business performance based on empirical research, existing literature and related theoretical discussions on technological innovation and business performance.

Reliability analysis

This study divides technological innovation (TI) into three dimensions: technological innovation support (TI1), technological innovation culture (TI2) and technological innovation output (TI3), and divides operational performance (OP) into three dimensions: financial performance (OP1), growth performance (OP2) and innovation performance (OP3). The relationship between technological innovation and operational performance of Internet enterprises is empirically

studied by using 402 valid sample data of questionnaires. As can be seen from the correlation analysis results shown in Table 4.7:

As can be seen from Table 4.8, the correlation coefficient between technological innovation and operating performance reaches 0.748, that is, there is a significant positive correlation between them; the correlation coefficients between technological innovation and financial performance, growth performance and innovation performance are 0.601, 0.608 and 0.635 respectively, that is, there is a significant positive correlation between them; the correlation coefficients between technological innovation support and operating performance, financial performance, growth performance and innovation performance are 0.531, 0.458, 0.393 and 0.421 respectively, that is, there is a significant positive correlation between them; the correlation coefficients between technology innovation culture and operating performance, financial performance, growth performance and innovation performance are 0.677, 0.520, 0.577, 0.559 respectively, that is, there is a significant positive correlation between them; the correlation coefficients between technology innovation output and operating performance, financial performance, growth performance and innovation performance are 0.648, 0.530, 0.487, 0.539 respectively, that is, there is a significant positive correlation between them; the correlation coefficients between technological innovation output and operating performance, financial performance, growth performance and innovation performance are 0.648, 0.530, 0.487 and 0.539, respectively, which means that there is a significant positive correlation between them.

Research objective 2 (R.O.2): The impact of management innovation on the operating performance of Internet enterprises

This section explores the relationship model between management innovation and business performance based on empirical research, existing literature and related theoretical discussions on resource efficiency and institutional environment.

This paper divides management innovation into four dimensions: innovation of resource integration, innovation of resource allocation, innovation of resource reconstruction and innovation with the help of external resources. Using 402 valid sample data of questionnaires, this dissertation empirically studies the relationship between management innovation and business performance. As shown in the correlation analysis results shown in Table 4.10:

The correlation coefficients between management innovation and operational performance are 0.718, which means that they are significantly positively correlated; the correlation coefficients between management innovation and financial performance, growth performance and innovation performance are 0.572, 0.618 and 0.576 respectively, which means that they are significantly positively correlated; the correlation coefficients between resource integration innovation and operational performance, financial performance, growth performance and innovation performance are 0.544, 0.410, 0.463 and 0.403 respectively, which means that they are significantly positively correlated; the correlation coefficients between resource allocation

innovation and operating performance, financial performance, growth performance and innovation performance are 0.633, 0.504, 0.539 and 0.490 respectively, which means that they are significantly positively correlated; the correlation coefficients between resource restructuring innovation and operating performance, financial performance, growth performance and innovation performance are 0.453, 0.336, 0.392 and 0.327 respectively, which means they are significantly positively correlated; the correlation coefficients between the use of external resources and operational performance, financial performance, growth performance and innovation performance are 0.495, 0.383, 0.398 and 0.365 respectively, which means that they show significant positive correlation with each other. The study of correlation analysis is mainly to describe the closeness of linear correlation between two types of variables, while regression analysis can reveal the degree of influence of independent variables on dependent variables, therefore, in order to examine the degree of relationship and causality between management innovation and business performance, further multiple regression analysis needs to be done.

Table 0-10 Results of the correlation analysis between management innovation and enterprise operating performance

	MI	MI1	MI2	MI3	MI4	OP	OP1	OP2	OP3
MI	1								
MI1	-	1							
MI2	-	-	1						
MI3	-	-	-	1					
MI4	-	-	-	-	1				
OP	0.718***	0.544***	0.633***	0.453***	0.495***	1			
OP1	0.572***	0.410***	0.504***	0.336***	0.383***	-	1		
OP2	0.618***	0.463***	0.539***	0.392***	0.398***	-	-	1	
OP3	0.576***	0.403***	0.490***	0.327***	0.365***	-	-	-	1

Note: *** indicates $P < 0.001$; ** indicates $P < 0.01$; * indicates $P < 0.05$.

The multiple regression analysis of management innovation and operating performance is shown in Table 4.11, where the model has $R^2=0.485$, adjusted $R^2=0.476$, $F=58.761$, and the significance level $P=0.000$, which is less than 0.001. The regression of MI1 on OP holds, $P=0.002$ (<0.01), with a regression coefficient of 0.180, Hypothesis H2a is valid; the regression of MI2 on OP holds, $P=0.000$ (<0.01), with a regression coefficient of 0.389, Hypothesis H1b is valid; the regression of MI3 on OP holds, $P=0.124$ (>0.01), with a regression coefficient of 0.084, Hypothesis H1c is valid; the regression of MI4 on OP holds, $P=0.000$ (<0.01), with a regression coefficient of 0.245, Hypothesis H1c is valid;

Table 0-11 Results of multiple regression analysis of management innovation on operating performance of Internet enterprises

Independent variable	Unstandardized regression coefficients		Standardized regression coefficients	t	Sig.
	B	Standard Error			
Constants	0.696	0.159		4.388	0.000
MI1	0.153	0.049	0.180	3.149	0.002
MI2	0.374	0.055	0.389	6.807	0.000
MI3	0.067	0.043	0.084	1.544	0.124
MI4	0.165	0.035	0.245	4.701	0.000

As can be seen from the regression results in Table 4.11, the four independent variables of the regression model as a whole can explain 48.50% of the total variance, indicating that the independent variables of the multiple regression model have a high degree of explanatory. The goodness-of-fit test yielded an F-value of 58.761, which passed the test at a significant level of 0.01, indicating the goodness of fit of the multiple regression model is good. The standardized regression coefficient of independent variable, resource integration innovation on dependent variable operating performance is 0.180, and the corresponding significance is 0.002 and less than 0.05, which indicates that resource integration innovation has a significant positive impact on operating performance, that is, the higher the resource integration innovation, the better the operating performance of the enterprise, so Hypothesis H1a is valid. The standardized regression coefficient of independent variable, resource allocation innovation on dependent variable, operating performance is 0.389, and the corresponding significance is less than 0.05, which indicates that resource allocation innovation has a significant positive impact on dependent variable, operating performance, that is, the higher the resource allocation innovation, the better the operating performance of enterprises, so Hypothesis H1b is valid. The standardized regression coefficient of independent variable, resource restructuring innovation on dependent variable, operating performance is 0.084, and the corresponding significance is 0.124, which is greater than 0.05, indicating that resource restructuring innovation has no significant positive impact on dependent variable operating performance, so Hypothesis H1c is not valid. The standardized regression coefficient of independent variable, operating performance on using external resources is 0.245, and the corresponding significance is 0.000, which is less than 0.05, indicating that using external resources have a significant positive impact on the operating performance of dependent variables, that is, the higher the using external resources are, the better the operating performance of enterprises will be, so Hypothesis H1c is valid. Through the correlation analysis and multiple regression analysis of management innovation and enterprise operating performance, the relationship between management innovation and enterprise operating performance is confirmed. Among them, resource integration innovation, resource allocation innovation, resource reconstruction innovation and the use of external resources have significant positive impact on business performance. When Internet enterprises improve their business performance, they should carry out their work from four aspects: resource integration innovation, resource allocation innovation, resource reconstruction innovation and the use of

external resources.

CONCLUSION

On the basis of the comprehensive and systematic study of the previous chapters, this chapter mainly reviews the research conclusions of this study, analyzes and summarizes the conclusions, expounds the research implication and the value to practice of this study, and then objectively analyzes the suggestions and limitations of this study, and points out the further research direction for the future research.

In China, there are few studies on the mechanism of the impact of internet enterprise innovation and enterprise operating performance under the background of intellectualization, and there is no complete research system compared with other studies. Therefore, this dissertation takes Internet enterprises as the research object, analyzes and constructs a theoretical model between technological innovation, management innovation, user experience and enterprise operating performance, and explores the intermediary role of user experience. It not only has a collation of previous studies, but also has a new research breakthrough.

From the practical point of view, this dissertation studies the impact of technological innovation and management innovation on the business performance of Internet enterprises under the background of intellectualization, which can prompt Internet enterprises to strengthen their awareness of the importance of technological innovation and management innovation and realize the opportunities and challenges of technological innovation and management innovation. At the same time, the research of this dissertation can also give implication to traditional enterprises that hope to further improve their business performance through technological innovation and management innovation, that is, how to realize digital transformation through technological innovation and management innovation? Is it through technological innovation, management innovation or the synergy of the two to improve the business performance?

Based on this, using the data from 402 valid questionnaires, this dissertation explores the logical relationship between technological innovation, management innovation, user experience and enterprise operating performance. Firstly, the basic situation of each data is obtained by descriptive statistics of sample data. Second, carry out group inspections: the impact of technological innovation on enterprise operating performance; the impact of management innovation on enterprise operating performance; the relationship between technological innovation and management innovation; the impact of technological innovation on user experience; the impact of management innovation on user experience, the impact of use experience on enterprise operating performance, and the mediating effect of user experience on technological innovation, management innovation, and enterprise operating performance. The reliability and validity of the data are verified by reliability and validity

analysis. Through canonical correlation analysis, the correlation between factors is verified. The results of the analysis of the obtained data using multiple regression analysis are used to verify the hypothesis. The 14 hypotheses proposed in this dissertation are tested one by one, and the results show that 14 hypotheses are valid.

This study profoundly reveals the interaction between technological innovation, management innovation, user experience and enterprise operating performance, which has strong practical and theoretical significance for China's Internet enterprises to improve business performance through technological innovation and management innovation. Based on the literature review and the data from 402 valid questionnaires, this study empirically analyzes the interactive relationship between technological innovation, management innovation, user experience and enterprise operating performance by using factor analysis, canonical correlation analysis and multiple regression analysis, which provides theoretical and practical basis for the path design of technological innovation and management innovation in Internet enterprises. Based on the above empirical analysis results, the research conclusions are as follows:

First, technological innovation has a positive impact on enterprise operating performance. Through canonical correlation analysis, this study confirms that there is a positive correlation between technological innovation and business performance, which shows that it is effective for Internet enterprises to carry out technological innovation in the process of improving business performance. Meanwhile, through multiple regression analysis, this study confirms that the three dimensions of technological innovation support, technological innovation culture and technological innovation output have a significant positive impact on business performance. In order to improve the business performance of enterprises, Internet enterprises should improve the intensity of R & D and increase the proportion of R & D personnel. At the same time, Internet enterprises should create a good cultural atmosphere for enterprise innovation, advocate the spirit of be bold in making innovations and tolerating failure, carry out advanced technical knowledge training, encourage employees to continue learning and knowledge sharing, and formulate a complete innovation incentive mechanism. At the same time, employees are encouraged to dare to break through and surpass the existing experience and achievements, and to dare to be the first in new fields. While doing a good job in the risk assessment of technological innovation, enterprise leaders should realize that technological innovation activities and the research and development of new products are highly risky, which can not be guaranteed to be absolutely safe or absolutely successful, and there will be no innovation without tolerating failure. At the same time, it is also necessary to establish a free and friendly exchange atmosphere within the enterprise. With a good cultural atmosphere for technological innovation and more appropriate conditions, innovative personnel can play a role. At the same time, it is necessary to ensure that full and effective communication and learning can be carried out within the team, between the team and other departments, and even between the team and relevant fields outside the enterprise, to ensure that knowledge and information can be shared without barriers. For the R & D personnel who have made important contributions to technological innovation, enterprises

should give sufficient attention and rewards, which include material rewards and non-material rewards, to not only strengthen the innovation willingness of innovation team members to a certain extent, but also express the concept of enterprises attaching importance to innovation.

Second, management innovation has a positive impact on business performance. Through canonical correlation analysis, this study confirms that there is a positive correlation between management innovation and business performance, indicating that it is effective for Internet enterprises to carry out management innovation in the process of improving business performance, at the same time, through multiple regression analysis, it confirms that the four dimensions of management innovation, namely, resource integration innovation, resource allocation innovation, resource reconstruction innovation and use of on external resources, have a significant positive impact on business performance. In order to improve the business performance, Internet enterprises should strengthen the training of senior managers, analyze and learn the experience of other enterprises in management innovation through the exchange and cooperation between enterprises, selectively absorb and apply it in combination with the enterprise's own situation, and pay attention to the construction of enterprise innovation culture and atmosphere. Because democracy and encouraging innovation atmosphere can give full play to the enthusiasm of employees to participate in decision-making and enterprise management, and employee participation can make enterprises continuously optimize management process and management mode, and then improve management efficiency. In addition, enterprises should also pay attention to the coordinated development of management innovation and technological innovation. An enterprise is a collection of various resources and capabilities, and its activities are not completely independent. In the era of intelligence, the internal and external environment information such as technology, market and customers is ever-changing. Internet enterprises should clarify their own corporate culture, knowledge, resources and capabilities, and understand the needs of target customers to determine the enterprise positioning. Internet enterprises should make full use of the key resources inside and outside, develop in coordination, and give full play to the synergy effect between them. To set up a special contact group for innovation alliances, with senior leaders of Internet companies in charge, and the group members include not only public relations personnel but also technical backbones of the companies. The contact group is responsible for actively maintaining communication with government departments, research institutions of higher education, and other companies in the innovation alliance. Internet enterprises can cooperate with and support the active operation of the industry-university-research innovation alliance by increasing capital investment, and the contact group is responsible for supervising the direction of the use of funds, the main body of use, and following up the alliance trends to stimulate the enthusiasm of the alliance and promote its good operation.

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