

RESEARCH ON THE IMPACT OF DIGITAL EMPOWERMENT ON THE INNOVATION QUALITY OF HIGH TECH ENTERPRISES



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Abstract

This study draws on existing research and draws on existing perspectives, taking Chinese high-tech enterprises as the research object, using innovation theory, quality theory, knowledge management theory, and resource orchestration theory, from the perspective of digital empowerment and knowledge integration, focusing on the topic of "how digital empowerment, knowledge integration, and knowledge orchestration capabilities affect the innovation quality of high-tech enterprises". A conceptual model of "digital empowerment-knowledge integration-knowledge orchestration capability-innovation quality of high-tech enterprises" is constructed, and based on this, research is conducted to explore how the relationship between digital empowerment and innovation quality in high-tech enterprises, the role of knowledge integration and knowledge orchestration capability in influencing the innovation quality of high-tech enterprises, and the paths for improving the innovation quality of high-tech enterprises. This study first reviews the literature on the relationship between digital empowerment, knowledge integration, knowledge orchestration capability, and innovation quality, and constructs a conceptual model. Based on theoretical deduction, hypotheses are proposed: digital empowerment, technology, and platforms all positively affect innovation quality and knowledge integration; digital empowerment affects innovation quality through knowledge integration; knowledge orchestration capability regulates the mediating effect of knowledge integration. Subsequently, using panel data models to empirically test the above hypotheses with samples of Chinese A-share listed high-tech enterprises. The results show that digital empowerment and its components have a positive impact on innovation quality and knowledge integration, and knowledge orchestration capability regulates the mediating effect of knowledge integration.

Keywords: digital empowerment, innovation quality, knowledge integration, knowledge orchestration capability

Introduction

As China's economy enters a new normal, innovation-driven development has become key. As an important carrier of innovation, the quality of innovation of high-tech enterprises is crucial for the implementation of national strategies. In the digital age, the continuous emergence of "ABCD" technologies such as artificial intelligence, blockchain, cloud computing, big data, etc. has made digital empowerment a new path to improve the

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quality of innovation. However, how to seize the opportunity of digital transformation and improve the quality of innovation of high-tech enterprises has become an important issue in theory and practice. Although existing literature focuses on the impact of heterogeneous knowledge and knowledge integration on innovation quality, there is a lack of comprehensive research on digital empowerment, knowledge integration, knowledge orchestration capabilities, and innovation quality. This study aims to explore these issues and is of great significance for promoting the innovation and development of high-tech enterprises in China.

Research objective

This study attempts to explore how digital empowerment affects the improvement of innovation quality in high-tech enterprises based on the existing research literature on digital empowerment and innovation quality of high-tech enterprises, combined with literature analysis, inductive deduction, regression analysis and other research methods. It also explores the role of knowledge integration in this process, and further explores the relationship between digital empowerment, knowledge integration and innovation quality of high-tech enterprises. This study is not only academic cutting-edge, but also provides useful references for enterprises to seek innovation quality improvement and for the government to promote high-quality development of high-tech enterprises.

Literature Review

1. Literature review

Scholars at home and abroad have conducted research on issues such as digital empowerment, innovation quality, and knowledge integration from different perspectives, and have obtained rich research results, which indicates that the research areas of digital empowerment, innovation quality, and knowledge integration have attracted the attention of a wide range of scholars as social hotspots, addressing social concerns and seeking breakthrough paths. This has important reference and enlightenment significance for the research topic selection and implementation of this article.

According to existing research, scholars have mostly focused on the economic consequences of digital transformation, such as performance. A small number of scholars have studied digital empowerment and high-quality development within a framework, and few scholars have studied digital empowerment and innovation quality as research issues. With the deepening of the transformation of economic development momentum, the connotation of high-quality development is constantly enriched, and innovation leading economic development is an eternal topic of the times. The research on innovation quality will remain an important direction in the field of management research for some time to come. There are few studies that combine knowledge management theory and resource orchestration theory to explain the relationship between digital empowerment, knowledge integration, and innovation quality. There is little research on the relationship between digital empowerment and innovation quality, and there is a lack of in-depth research on the role of knowledge integration in the process of digital empowerment. There is also little research on the innovation quality of high-tech enterprises. There is no real awareness of the importance of digital empowerment for the innovation quality of high-tech enterprises. In the context of economic growth mode transformation and high-quality development, with the vigorous development of the digital economy, the relationship between digital empowerment and the innovation quality of high-tech enterprises deserves further in-depth study. Domestic scholars have a certain gap in the depth of research on innovation quality. As an emerging economy, the economy is in a period of transition, and high-tech enterprises have advantages in capital, knowledge, technology, and policy. In the process of high-quality development of high-tech

enterprises, how does digital empowerment affect enterprises? How do resources inside and outside the enterprise integrate? What is the mediating effect of knowledge orchestration ability in regulating knowledge integration, and thus affecting innovation quality? These are worthy of further in-depth study. Based on the shortcomings of previous research, this study mainly explores the impact of digital empowerment on the quality of high-tech enterprises.

At present, there are few documents that link "digital empowerment-innovation quality of high-tech enterprises", and the direction of influence and possible mechanisms between the two can only be inferred from other relevant literature. It is not difficult to find that the existing literature has not reached a consensus on the relationship, and further in-depth research is needed. In view of this, this article intends to identify and test the impact, channel mechanism, and basic conditions of "digital empowerment-innovation quality of high-tech enterprises", providing new evidence for understanding the digital empowerment innovation quality and high-quality development of Chinese high-tech enterprises.

2.Assumption

2.1 The impact of digital empowerment on the innovation quality of high-tech enterprises

Digitalization empowerment has become a new growth point for the global and national economies in the macro aspect, and has received high attention and support from various regions in the medium aspect to promote digital industrialization and industrial digitalization. At the micro-enterprise level, it has become an important measure for enterprises to improve production efficiency, reduce costs and improve quality. Digitalization can help enterprises improve their innovation quality by promoting technological upgrading, internal and external knowledge integration, efficiency improvement, cost savings, etc., and promoting high-tech enterprise innovation quality. Digitalization empowerment can promote the improvement of innovation quality. High-tech enterprises use digital technologies such as artificial intelligence, blockchain, cloud computing, big data, etc. to adjust and optimize existing production technology, production processes, production processes, and architecture, and promote enterprise innovation. Xiao Jing et al., 2023, thereby improving the quality of innovation. Digitalization empowerment is a new production factor and innovation driver for enterprises to use data as important as people, finance, and materials, and adopt cross-border integration and value creation methods to achieve the empowerment of digital technology for physical enterprises and promote high-quality development. He Fan and Liu Hongxia, 2019. Digital platforms significantly improve the efficiency of production tools. Production tools have entered the era of intelligence, and intelligent hardware collects data through interconnection. Software ends intelligently analyze and make decisions based on program commands, which can greatly shorten machine maintenance time, downtime, process switching time, reduce operation and maintenance costs and inventory costs, and significantly improve production efficiency (Yan Deli et al., 2019). Based on the above analysis, the following hypothesis is drawn:

H1: Digital empowerment has a significant positive impact on the innovation quality of high-tech enterprises. That is, digital empowerment can promote the improvement of the innovation quality of high-tech enterprises.

H1a: Digital technology has a significant positive impact on the innovation quality of high-tech enterprises. That is, digital technology can promote the improvement of the innovation quality of high-tech enterprises.

H1b: Digital platforms have a significant positive impact on the innovation quality of high-tech enterprises. That is, digital platforms can promote the improvement of the innovation quality of high-tech enterprises.

2.2 The impact of digital empowerment on knowledge integration

The digitalization of enterprises can promote collaborative innovation, thereby achieving the integration and reconstruction of various types of knowledge across different technical fields. Knowledge integration refers to the dynamic process by which enterprises restructure their internal knowledge, discard useless knowledge, and integrate the knowledge

of employees and organizations within the enterprise to form a new core knowledge system (Grant, 1996).

Digitalization empowers high-tech enterprises to create new knowledge and products conveniently. How to transform external knowledge into new knowledge of their own and apply it to innovation activities to achieve high-quality innovation depends on the integration of knowledge with high-tech enterprises themselves. Knowledge integration plays an increasingly important role in the implementation of innovation strategies in high-tech enterprises. Knowledge integration has a significant impact on improving the efficiency of technological innovation, innovation level, and core competitiveness of enterprises. In the process of digital transformation of high-tech enterprises, knowledge integration uses digital technology to integrate, process, and reconstruct the massive data information scattered in the enterprise, in order to form new knowledge and experience valuable to the enterprise's products, processes, and management models. Based on the above analysis, the following hypotheses are derived:

H2: Digital empowerment has a significant positive impact on knowledge integration. That is, the higher the degree of digital empowerment, the more significant the impact on knowledge integration.

H2a: Digital technology has a significant positive impact on knowledge integration. That is, the higher the degree of digital technology, the more significant the impact on knowledge integration.

H2b: The digital platform has a significant positive impact on knowledge integration. That is, the higher the degree of use of the digital platform, the more significant the impact on knowledge integration.

2.3 The mediating role of knowledge integration

High-tech enterprises improve their innovation efficiency and core competitive advantages through digital transformation to acquire knowledge. Digital transformation provides enterprises with a large amount of external heterogeneous new knowledge, and high-tech enterprises identify and digest external heterogeneous new knowledge through their own knowledge integration, promoting the creation of new ideas and knowledge for the enterprise. Only new knowledge and technology that have been integrated and transformed by the enterprise itself can directly affect the innovation process of the enterprise. Therefore, the ability of high-tech enterprises to transform and utilize external knowledge also requires a large amount of heterogeneous new knowledge as a basic guarantee. Based on the above analysis, the following hypotheses are proposed:

H3: Digital empowerment affects the innovation quality of high-tech enterprises through the mediating effect of knowledge integration, that is, the greater the intensity of knowledge integration, the greater the impact of digital empowerment on the innovation quality of high-tech enterprises.

2.4 The Moderating Effect of Knowledge Concert Capacity on the Mediating Role of Knowledge Integration

Knowledge Concert is a process of knowledge sharing, collaboration, and integration among different individuals or teams within an organization. The stronger the ability of Knowledge Concert, the stronger the internal coordination and execution within the organization. Knowledge integration, as an internal activity of an organization, is subject to interference from organizational teams or individuals, as well as knowledge resources. The stronger the internal coordination and execution, the stronger the intensity of knowledge integration. The intensity of knowledge integration is positively correlated with the strength of Knowledge Concert. That is to say, the stronger the ability of Knowledge Concert, the stronger the intensity of knowledge integration. Knowledge Concert plays a moderating role in knowledge integration. Knowledge integration plays a mediating role in the "digital transformation-knowledge integration-innovation quality of high-tech enterprises" model, and is also moderated by the moderating variable Knowledge Concert. When the ability of Knowledge Concert is stronger, the positive mediating effect of knowledge integration on

digital transformation and innovation quality of high-tech enterprises will be enhanced. Therefore, Knowledge Concert will moderate the mediating role of knowledge integration in the process of influencing innovation quality of high-tech enterprises. Based on the above analysis, the following hypotheses are proposed:

H4: The mediating role of knowledge orchestration ability in the process of knowledge integration affecting the innovation quality of high-tech enterprises will be regulated. That is, the stronger the knowledge orchestration ability, the stronger the positive mediating effect of knowledge integration on the relationship between digital transformation and innovation quality of high-tech enterprises.

Research method

This study selects high-tech enterprises listed on the A-share market from 2013 to 2021 as the research sample, and strictly follows the following screening criteria: first, exclude those enterprises that do not involve actual production business, such as media, real estate and other non-high-tech industries; second, exclude those enterprises with serious data missing in key financial indicators such as R&D expenditure, personnel input, and patent quantity; third, delete those enterprises with incomplete data related to research variables in the annual report; at the same time, in order to ensure the rationality of the data, remove the sample of enterprises with sales revenue, R&D expenses, etc. accounting for less than 1%; finally, exclude those enterprises with "ST" and "*ST" risk warning signs.

The research data mainly comes from two major databases, WIND and CSMAR, as well as the China High-tech Industry Database. These databases contain relevant data on listed companies and high-tech industries, providing a solid data foundation for empirical analysis. For individual missing or inconsistent data, this study checks and supplements them through the website of <http://www.cninfo.com.cn> and the official website of the company. Due to the lack of disclosure of certain technical expenses data at the enterprise level, the average data at the enterprise level is manually collated and calculated from the industry database. To ensure the accuracy of the data, the enterprise data that does not disclose relevant indicator information is treated as missing values. In addition, in order to reduce the impact of outliers, all data undergoes 1% and 99% tail-capping processing. This series of rigorous data processing procedures ensures the reliability of the research data and lays a solid foundation for the following empirical analysis.

Research results

1.Hypothesis testing

This article takes 601 A-share listed high-tech enterprises as the research object, and uses panel data from 2013 to 2021 for empirical analysis. The data are from different companies in different years, and in order to eliminate endogenous factors, a panel data model is used. There are three types of analysis models for panel data, namely mixed effects model, fixed effects model, and random effects model.

Therefore, it is necessary to determine which model to use before starting empirical regression. This article first conducted an F test on the sample data, and the test results are shown in the table. It can be seen that the p-values of the F test are all 0.0000, so the null hypothesis is rejected, which means that the fixed effect model is more suitable for this study than the mixed effect model. Then, it is necessary to determine which model is more suitable, so this article conducted a Hausman Test. The test results are shown in the table. It can be seen that the p-values in the Hausman Test are also all 0.0000, indicating that the random effect model cannot be selected and the fixed effect model should be selected for regression analysis.

The results are shown in the following table:

Table 1 Model Test Results

Model	F-test		Hausman test	
	F statistic value	P value	chi-square value	P value
Model 1	5.22	0.000	45.71	0.0000

Through the Hausman test, we used a fixed-effect model for testing. The specific regression results are shown in Table 5.4. The study found that digital empowerment has a significant positive impact on the innovation quality of high-tech enterprises. For every 1% increase in the level of digital empowerment, the innovation quality of high-tech enterprises will increase by 0.511%. Knowledge integration plays a mediating role in this relationship, and it regulates the relationship between digital empowerment and innovation quality. Knowledge integration can strengthen the positive impact of digital empowerment on innovation quality, thereby promoting further improvement in innovation quality.

2.The impact of digital empowerment on the innovation quality of high-tech enterprises

According to the regression results of Model 1, the regression coefficient of Dig is 0.5323, and the significance is less than 0.01, indicating that digital empowerment has a significant positive impact on the innovation quality of high-tech enterprises. Hypothesis 1 is established. Digital empowerment is positively correlated with the innovation quality of enterprises. The improvement of digital empowerment means that enterprises have stronger capabilities in information technology, data management, innovation, and other aspects, thus improving their innovation quality.

According to the regression results of model 2, the regression coefficient of Dig1 is 0.1026, and the significance is less than 0.01, indicating that digital technology has a significant positive impact on the innovation quality of high-tech enterprises, and hypothesis 1a is established. Digital technology has a significant positive impact on the innovation quality of high-tech enterprises. This analysis emphasizes the key role of digital technology in improving the innovation quality of enterprises. In practice, enterprises should focus on promoting digital technology while paying attention to improving their foundation and status to achieve more sustainable and comprehensive global competitiveness improvement.

According to the regression results of Model 3, the regression coefficient of Dig1 is 0.3207, and the significance is less than 0.01, indicating that the digital platform has a significant positive impact on the innovation quality of high-tech enterprises, and hypothesis 1b is established. The digital platform has a significant positive impact on the innovation quality of high-tech enterprises. Overall, the empirical analysis provides preliminary support for the hypotheses proposed in the study, and points out directions for further in-depth research and interpretation to more fully understand the relationship between digital empowerment and enterprise innovation quality.

3.The impact of digital empowerment on knowledge integration

According to the regression results of Model 1, the regression coefficient of Dig is 0.0018, and the significance is less than 0.01, indicating that digital empowerment has a significant positive impact on knowledge integration, and Hypothesis 2 is established. Digital empowerment has a significant positive impact on knowledge integration. This analysis emphasizes that knowledge integration in the process of digital empowerment for high-tech enterprises is to integrate, process, and reconstruct the dispersed massive knowledge using digital technology to form new knowledge valuable to the enterprise's products, processes, and management models, enriching the knowledge reserve, and the new knowledge together with the original old knowledge constitutes the knowledge foundation. The heterogeneous new knowledge formed by the use of digital technology and the instant interaction of knowledge

during the use of digital platforms all indicate that the higher the degree of digital transformation, the more knowledge obtained, and the greater the intensity of knowledge integration. That is, digital empowerment has a significant impact on knowledge integration.

According to the regression results of model 2, the regression coefficient of Dig1 is 0.0010, and the significance is less than 0.05, indicating that digital technology has a significant positive impact on the amount of knowledge integration, and hypothesis 2a is established. Digital technology has a significant positive impact on knowledge integration. This analysis emphasizes that high-tech enterprises with a high degree of investment in digital technology can acquire more heterogeneous new knowledge from external knowledge subjects, and achieve the reorganization and updating of old knowledge in their own knowledge base. The use of digital technology and digital platforms in enterprises is beneficial for helping enterprises quickly understand the technological frontier in related fields, diversified heterogeneous knowledge, and identifying and digesting diverse knowledge. The opportunity for external new knowledge to integrate with existing knowledge, as well as the diffusion of technical knowledge between different fields, will put higher demands on the level of knowledge integration in enterprises.

According to the regression results of model 3, the regression coefficient of Dig2 is 0.0006, and the significance is greater than 0.05, indicating that the digital platform does not have a significant positive impact on knowledge integration. Therefore, hypothesis 2b is not supported.

4. The Mediating Effect of Knowledge Integration

In the first step of verifying the coefficient c of the independent variable, Dig had a significant effect on Iq ($c = 0.5323$, $p < 0.01$). In the second step of verifying the coefficient a of the independent variable, Dig had a significant effect on KI ($a = 0.0018$, $p < 0.1$). During the validation of the mediating variable coefficient b and the independent variable coefficient c' , Dig had a significant effect on Iq (i.e., coefficient $c' = 0.5200$, $p < 0.01$), and KI had a significant effect on Iq (i.e., coefficient $b = 6.8484$, $p < 0.01$). Based on the above, KI has a mediating role between Dig and Iq, and Hypothesis 3 is valid. This analysis emphasizes that knowledge integration identifies new heterogeneous knowledge from both internal and external sources, integrates it with existing knowledge, and forms new valuable innovative knowledge. The greater the intensity of knowledge integration, the more valuable new knowledge containing heterogeneous knowledge is generated, and the stronger the positive impact on the innovation quality of high-tech enterprises.

5. The Moderating Effect of Knowledge Orchestration Capability

According to the regression results of Model 1, taking Iq as the dependent variable, the coefficient of the interaction term between Dig and KO1 is 0.0398, with a significance level less than 0.01, indicating that KO1 has a significant positive moderating effect between Dig and Iq. According to the regression results of Model 2, taking KI as the dependent variable, the coefficient of the interaction term between Dig and KO1 is 0.0003, with a significance level greater than 0.05. According to the regression results of Model 3, taking Iq as the dependent variable, the coefficient of the interaction term between Dig and KO1 is 0.0593, with a significance level less than 0.01, indicating that KO1 has a significant moderating effect between Dig and Iq. The coefficient of the interaction term between KI and KO1 is -2.8035, with a significance level less than 0.01, indicating that KO1 has a significant moderating effect between KI and Iq. In summary, the knowledge orchestration capability KO1 has a positive moderating effect on the mediating role of knowledge integration in the process of influencing the innovation quality of high-tech enterprises.

6. Summary of Hypothesis Testing Results

This paper proposes 8 hypotheses, and through statistical analysis of the collected sample data, the results verify whether the hypotheses are valid. The results of the hypothesis testing are summarized in Table 5.2.

Table 2 Summary of Hypothesis Testing Results

Number	Hypothesis	Result
H1	Digital enablement has a significant positive impact on the innovation quality of high-tech enterprises	Accepted
H1a	Digital technology has a significant positive impact on the innovation quality of high-tech enterprises	Accepted
H1b	Digital platforms have a significant positive impact on the innovation quality of high-tech enterprises	Accepted
H2	Digital enablement has a significant positive impact on knowledge integration	Accepted
H2a	Digital technology has a significant positive impact on knowledge integration	Accepted
H2b	Digital platforms have a significant positive impact on knowledge integration	Rejected
H3	Digital enablement influences the innovation quality of high-tech enterprises through the mediating role of knowledge integration	Accepted
H4	Knowledge orchestration capability moderates the mediating role of knowledge integration in the process of influencing the innovation quality of high-tech enterprises	Accepted

Discussion

Taking Chinese high-tech enterprises as the research object, a conceptual model of "Digital Empowerment - Knowledge Integration - Knowledge Orchestration Capability - Innovation Quality of High-tech Enterprises" was constructed from the perspective of digital empowerment and knowledge integration. Empirical research adopted panel data from Chinese A-share listed high-tech enterprises and through theoretical deduction and statistical regression analysis, the following conclusions were drawn:

First, digital empowerment has a significant positive impact on the innovation quality of high-tech enterprises. The application of digital technologies and platforms such as artificial intelligence, blockchain, cloud computing, and big data can promote enterprises to upgrade their existing production technologies, optimize resource allocation, and enhance the innovation quality of high-tech enterprises. At the same time, through digital technologies such as algorithms and machine learning, researchers can acquire and utilize various tacit innovative knowledge. In the process of integrating internal and external knowledge, they can tap into and integrate the tacit knowledge within the enterprise, enriching the knowledge resources for enterprise innovation. New knowledge is conducive to promoting the improvement of innovation quality. Enhancing the efficiency of knowledge integration in high-tech enterprises can reduce information asymmetry, grasp the latest market demands and dynamics in time, optimize the enterprise innovation process, and improve innovation efficiency and quality. Digital applications such as the Internet of Things, apps, digital platforms, and digital middleware can strengthen interactions between enterprises and users, and even with competing enterprises, enabling timely access to consumer habits and preferences. This transforms enterprise innovation from experience-driven to data-driven, capturing first-hand market information for enhancing innovation quality. The established open and symbiotic digital platform forms an innovative synergy with multiple innovation

entities such as external scientific research institutions, consumers, and competing enterprises, further stimulating innovation vitality and promoting the improvement of innovation quality.

Second, the mediating role of knowledge integration is significant. Knowledge integration has a significant impact on the innovation quality of high-tech enterprises. Heterogeneous knowledge is an important resource for innovation. Knowledge integration identifies new heterogeneous knowledge from internal and external sources, absorbs and integrates it with existing knowledge to form new valuable innovative knowledge. The greater the intensity of knowledge integration, the more valuable new knowledge, including heterogeneous knowledge, is generated, resulting in a stronger positive impact on the innovation quality of high-tech enterprises. In other words, knowledge integration has a significant impact on the innovation quality of high-tech enterprises.

Third, knowledge orchestration capability moderates the mediating role of knowledge integration in the process of affecting the innovation quality of high-tech enterprises. Knowledge orchestration facilitates knowledge sharing, collaboration, and integration among different individuals or teams within an organization. A strong knowledge orchestration capability enhances internal coordination and execution within the organization. As an internal activity of the organization, knowledge integration is influenced by organizational teams or individuals and knowledge resources. The stronger the internal coordination and execution, the stronger the intensity of knowledge integration. The intensity of knowledge integration undergoes positive changes based on the strength of knowledge orchestration capability. The stronger the knowledge orchestration capability, the stronger the intensity of knowledge integration. Knowledge orchestration capability plays a regulatory role in knowledge integration. Knowledge integration serves as a mediating variable in the "Digital Transformation - Knowledge Integration - Innovation Quality of High-tech Enterprises" model, and is simultaneously moderated by the regulatory variable of knowledge orchestration capability. When the knowledge orchestration capability is strong, the positive mediating role of knowledge integration between digital transformation and the innovation quality of high-tech enterprises will be enhanced. Knowledge orchestration capability moderates the mediating role of knowledge integration in the process of affecting the innovation quality of high-tech enterprises.

Summary and Suggestions

Based on empirical research results, this article conducts an in-depth analysis of the impact of digital empowerment, knowledge integration, knowledge orchestration capabilities, and innovation quality of high-tech enterprises. The analysis covers multiple variables such as digital technology, digital platforms, knowledge integration, and knowledge orchestration capabilities, and carefully explores effective ways to improve the innovation quality of high-tech enterprises. The purpose of this study is to help high-tech enterprises recognize and value the role of digital empowerment in improving innovation quality, and to emphasize the construction of knowledge teams and knowledge orchestration capabilities. By seizing the opportunities of the digital era, we aim to promote long-term innovation and achieve high-quality development.

First, we should recognize the importance of investment in digital technology transformation. Empirical research results show that digital empowerment has a significant positive impact on the quality of high-tech innovation. Enterprises should seize the opportunities of the digital age and fully recognize the importance of relying on digital empowerment to improve the quality of innovation. The development of the economy and society has also made us happy to see that the popularization of digital technology and the emergence of digital platforms will help enterprises to be digitally empowered, providing more opportunities for enterprises to be digitally empowered. The maturity of technology and the sharing of platforms will also help reduce the cost of enterprises' digital empowerment.

Enterprises should pay attention to increasing investment in digital technology transformation from various aspects such as software and hardware. In terms of hardware, we should increase the intensity of digital technology transformation and the development of digital platforms, or access existing platforms for application, share knowledge resources of platforms, and promote the improvement of innovation quality. In terms of talent, we should increase investment in digital human capital. First, we should introduce high-quality and excellent digital skilled talents according to needs. Second, we should increase internal training to improve the digital literacy level and technical ability of existing employees. In both hardware and software aspects, we should lay a foundation for improving the quality of enterprise innovation.

Second, we should attach importance to the construction of knowledge teams and knowledge orchestration capabilities. Empirical research results show that knowledge integration plays a mediating role between digital empowerment and the quality of innovation in high-tech enterprises, and knowledge orchestration capabilities have a moderating effect on knowledge integration. While increasing investment in digital technology transformation, enterprises can draw on the empirical research results of this article to recognize the importance of knowledge integration and knowledge orchestration capabilities. On the basis of increasing investment in digital technology transformation, we should pay more attention to the construction of knowledge integration teams with people as the core, internal training and external training, increase communication and interaction among employees, create a good working atmosphere, and take multiple measures to improve knowledge orchestration capabilities.

Third, we should improve the quality of innovation and promote high-quality development. In the current international and domestic economic environment, enterprises face great pressure to develop and high-quality development is even more so. We should turn pressure into motivation, break through bottlenecks and blockades, integrate into the digital age, accelerate digital technology innovation, build digital platforms, strengthen knowledge integration, increase knowledge team collaboration, seek development through innovation, continuously improve the quality of innovation, and promote high-quality development.

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