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An Empirical Study on the Impact of Digital Transformation on Enterprise Performance: A Case Study of Textile Enterprises in Shaoxing

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ABSTRACT

Based on the fundamental theories of technological innovation, strategic transformation and contingency, this paper takes Shaoxing textile enterprises as research subjects and uses a balanced scorecard to construct a research model and evaluation system of entrepreneurial performance. Through the investigation and analysis, it is concluded that digital transformation will positively affect the enterprises' performance through their technological innovation capability; on the other hand, strategic orientation plays a regulating role in the negative correlation between digital transformation and technological innovation capability.

1. Introduction

The concept of digital transformation was first proposed by Patel and McCarthy, but the term was not specialized or conceptualized (Mccarthy M, Patal K.,2000). Combined with the definition of digital transformation architecture in T/AIITRE 10001 and Digital Transformation Reference(Hess T, Matt C, Benlian A, et al.,2016; Li et al.,2020;Cennamo C, Dagnino GB, Minin AD, et al.2020), this paper holds that digital transformation is based on digital transformation and upgrading, and focuses on the realization of "business digitization" through systematic and thorough redefinition of organizational activities, processes, business models and employee capabilities, so that enterprises can develop new business (business model) and new core competitiveness in a new digital business environment. Under the great tide of the global digital economy, digital transformation has become an inevitable choice for enterprises to adapt to the digital economy and seek survival and development. Due to the rise in labor costs and raw material costs, the low-cost competitive advantage of my country's textile industry has disappeared. At the same time, under the impact of the cost advantage in Southeast Asia, the textile industry is not only facing the dilemma of overcapacity, but also has to respond to the government's environmental protection requirements and green intelligence. Digital transformation is imminent. Shaoxing City is one of the clusters of textile enterprises in China, most of which belong to small and medium-sized enterprises. Due to the limitations of its own strength, lack of accurate understanding of digitalization, and insufficient resources to carry out digital transformation strategies, the impact of digital transformation on enterprise performance is the most concerning issue for managers.

2. Theoretical basis and research assumptions

2.1 Research on enterprise performance

The concept of enterprise performance originated in the Industrial Revolution, for a long time, scholars have tried to study it from different perspectives. Scholar Martin defined enterprise performance as the specific results that enterprises can finally achieve through business activities and these results are closely related to the business strategy of enterprises. This paper believes that enterprise performance is the result of the work or task completed by the enterprise, and is reflective of the effectiveness of enterprise operation and development in a period of time.

In recent years, many scholars home and abroad have discussed the respective factors affecting enterprise performance from the perspectives of managers, corporate strategies, R&D investment and technological innovation, and put forward their own research viewpoints (Zhang et al.,2015; Tian et al.,2015; He et al.,2017). Some scholars believe that enterprise performance can also be effectively improved by adjusting and re-shaping business models(Luo et al.,2000). In addition, some scholars believe that enterprise

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performance would be affected by customer satisfaction and employee satisfaction.

Regarding the evaluation of enterprise performance, the mainstream measurement is through financial indicators: profitability, debt repayment, operation and growth capacity are conventional financial indicators, which can comprehensively analyze the profitability, asset management status, liabilities and comprehensive competitiveness of the enterprise; the indicators for evaluating the non-financial performance of enterprises include customer satisfaction, product and service quality, innovative technology capabilities, market share and so on. The balanced scorecard, invented by Kaplan and Norton in 1992, uses both financial and non-financial indicators to evaluate performance comprehensively. The method helps managers to review business results more clearly and accurately, and also facilitates strategic decision-making (Kaplan R S & Norton D P., 1992). In this paper, the balanced scorecard will be used as a measuring tool. In terms of financial indicators, sales growth rate, market share and profitability will be selected; customer satisfaction, employee satisfaction and the introduction of new products and services will be selected as non-financial indicators, corresponding to customer performance, innovation and learning performance and internal operation performance respectively.

2.2 Research hypothesis

Through literature review and analysis, digital transformation's positive impact on technological innovation ability, and in turn, enterprise performance, can be proven in theory; however, the research is not in-depth or mature enough, and there are few relevant empirical studies to prove its practicality. Although the impact of digital transformation on enterprise performance is convincing, there are still many problems regarding accuracy and complexity, and it is necessary to verify its effect.

(1) The impact of digital transformation on enterprise performance

Sebastien and Georges (2019) conducted a questionnaire survey on 193 SMEs, which not only showed a significant correlation between digitalization and enterprise performance, but also pointed out that acquisition and development of new skills, digital architecture, degree of automation, data quality and the use of e-commerce have important impacts on performance (Sebastien Gamache et al.,2019). Yu Jiaqiu (2021) and Deng Yiwen (2022) found that digital transformation is conducive to improving enterprise performance through the study of textile enterprises in different regions of China.

Therefore, this paper proposes: H1: Digital transformation has a significant positive impact on enterprise performance.

(2) The mediating role of technological innovation capability

The interpretation of digitization can be divided into the digitization of the final product, the digitization of the production process and the digitization of the control system. As the degree of digitization of enterprises increases, the competitive advantage will be more obvious, and enterprises will have higher enthusiasm and initiative to carry out innovation activities. Therefore, this paper proposes:

H2a: Digital transformation has a significant positive impact on technological innovation capabilities.

Technological innovation ability is one of the core competences for enterprises. Improving the technological innovation ability of enterprises can effectively compete with competitors' market shares and promote entrepreneur growth. Mainstream scholars generally recognize that technological innovation ability has a direct effect on enterprise performance. Murphy et al. (2013) demonstrated through research that the higher the innovation input ability of an enterprise, the higher the technological innovation ability and performance level of an enterprise. Yang Zhouqin (2014) believes that the textile industry, as a traditional technology industry, has a core competitiveness largely influenced by technological innovation ability, and enterprises should strengthen technological innovation and improve corporate performance. Therefore, this paper proposes that H2b: technological innovation capability has a significant positive effect on enterprise performance.

According to H2a and H2b, this paper puts forward the hypothesis that technological innovation capability plays a significant positive role in digital transformation and enterprise performance.

(3) The moderating role of strategic orientation

If an enterprise wants to maintain its competitiveness in the rapidly changing and highly competitive market environment, it must pay attention to the role of strategic orientation, and find and formulate an appropriate strategic direction for its own development. To some extent, technological innovation ability is related to strategic orientation. Enterprises with higher strategic orientation are more active, hence more likely to find market opportunities and make use of these opportunities for technological innovation. Strategic orientation is constantly divided into multiple dimensions; this paper chooses entrepreneurial orientation, technology orientation, and market orientation as subjects to study. Jian Zhaoquan et al. (2015) conducted an empirical study on the relationship between enterprise technological innovation and strategic orientation, and the results showed that strategic orientation had a significant impact on technological innovation capability, and dynamic capability played a certain intermediary role between the two(Zhao et al.,2006). Li Yijing (2010) believes that some small and medium-sized enterprises lack corresponding strategic talents and abilities as compared with medium and large sized and high-tech manufacturing enterprises. An excessive risk-taking strategy is not conducive to the innovative activities and corporate performance of small and medium-sized enterprises(Zhao et al.,2020). Therefore, this paper proposes the following assumptions:

H3: Strategic orientation positively regulates the relationship between digital transformation and technological innovation capabilities.

3. Study Design

3.1 Screening of research samples and data acquisition

By referring to the classic scale used in authoritative journal articles in relevant fields, this paper selects four variables: digital transformation, technological innovation ability, enterprise performance and strategic orientation, to design a questionnaire. Taking the employees and management of textile enterprises in Shaoxing as research objects, 250 questionnaires were distributed and 250 were recovered. After excluding 39 anomalies, such as enterprises without digital transformation, complete scores, insufficient filling time and incomplete filling, 211 valid questionnaires were obtained, with a recovery rate of 100% and an effective response rate of 84.4%.

3.2 Measure of variable

Items of the research scale all use Likert five-point scoring method, ranging from 1 to 5, which correlates to strongly disagree, disagree, neutral, agree and strongly agree. The items included in the measurement scale of the four variables related to this study are as

follows:

In terms of digital transformation, this paper mainly refers to the research results of Zhao Yining et al. (2020), and measures digital transformation from three aspects: strategy, technology and management. Technological innovation capability is the organic combination of multiple factors and capabilities. This paper mainly refers to the research results of Wang Shenglan et al. (2021), which divided the measurement index of technological innovation capability into two dimensions: innovation output and innovation input capability, and further divided it into specific measurement items. Among them, innovation output capacity is the ability to evaluate the achievements created by enterprises in the process of technological innovation. Innovation input ability refers to the ability of resources available for technological innovation activities. As for strategic orientation, this paper selects three representative dimensions, namely entrepreneurial orientation, technological orientation and market orientation; which are generally recognized by scholars. Refer to the scale used by Zhang Lingyu et al. (2021) in relevant studies on strategic orientation, and make corresponding corrections and improvements to the items on this basis. Meanwhile, mainly referring to the research results of Ji Yunteng et al. (2019), the balanced scorecard is adopted to measure enterprise performance from four dimensions of finance, customers, internal processes and learning and growth. See Table 1.

Tab. 1. Scale reliability analysis

Variable	Measure-ment Item	Specific Items	Cronbach Alpha with items removed	Alpha
Digital Transforma-tion	DT1	The company has a clear plan for each stage of digital transformation	0.901	0.916
	DT2	The company's leadership has formulated a digital transformation development strategy	0.903	
	DT3	The company has invested a lot of money in digital transformation efforts	0.906	
	DT4	The company has established a complete digital infrastructure to lay the foundation for digital transformation	0.901	
	DT5	The company conducts digital transformation training for employees and establishes a digital workforce	0.908	
	DT6	The company will use digital technology to grasp the market supply and demand trends and reposition the needs of consumers	0.908	
Technological Innovation Capability	TIA1	The company continuously improves its products and services and takes the lead in entering the market	0.894	0.926
	TIA2	The company is constantly trying to meet market demands and develop new products	0.886	
	TIA3	The company has introduced more digital products and technologies than its competitors	0.894	
	TIA4	Companies bring in more digital tech talent than competitors	0.887	
	TIA5	Companies are heavily invested in digital projects compared to competitors	0.899	
Strategic Orienta-tion	SO1	Companies are constantly seeking new practices	0.897	0.938
	SO2	The company is clearly aware that changes in technology will have an impact on the business	0.893	
	SO3	Company management fully supports risky projects and expects above-average returns	0.899	
	SO4	The company was one of the first to implement digital transformation	0.898	
	SO5	Under uncertainty, companies prefer bold moves to seize unexpected opportunities	0.898	
Enterprise Performance	CP1	The company is more profitable than its competitors	0.906	0.919
	CP2	The company has faster sales growth than its competitors	0.902	
	CP3	The company has better customer satisfaction than its competitors	0.901	
	CP4	The company has more market share than its competitors	0.9	
	CP5	The company has better products and services than its competitors	0.906	
	CP6	The company has higher employee satisfaction than its competitors	0.908	

4. Empirical Analysis

4.1 Reliability test

In this paper, the validity and reliability of the scale were tested by SPSS software. According to previous studies, an alpha coefficient value greater than 0.8 is usually in line with the standard and an alpha coefficient value greater than or equal to 0.9 indicates good reliability of the scale. If the alpha coefficient value of the deleted item is smaller than the overall alpha coefficient, it indicates that deleting any item will lead to a decline in the reliability of the scale.

The reliability analysis results of the four variable measurement scales of digital transformation, technological innovation ability, strategic orientation and enterprise performance are shown in Table 1 indicating that the alpha values of digital transformation, The company has higher employee satisfaction than its competitors technological innovation ability, strategic orientation and enterprise performance are all greater than 0.8, and the alpha values of the deleted corresponding items are all smaller than the overall alpha value. Therefore, the reliability of each variable scale in this paper is strong and suitable for further analysis.

4.2 Exploratory factor analysis

4.2.1 Exploratory factor analysis

Validity analysis generally tests the KMO value and significance first. If the KMO value in the test results is more than 0.8 and the significance is less than 0.05, it means that factor analysis is suitable. The closer the KMO value is, the more suitable it is for factor analysis. Then, the factor load of each variable and item is calculated by principal component analysis, and the AVE of average variance is calculated according to this. If the factor load>0.5 and the variance of mean variance>0.5, it means that the internal consistency between the items of each variable is relatively high, that is, the validity of the scale is relatively good. According to the results shown in Table 2, each variable is suitable for the next analysis.

Tab. 2. Variable validity table

Variable	KMO	Bartlett spherical test	AVE value
Digital transformation	0.918	0.000	0.665
Technological innovation capability	0.895	0.000	0.701
Strategic orientation	0.898	0.000	0.675
Enterprise performance	0.923	0.000	0.64

4.2.2 Confirmatory factor analysis

In order to enhance persuasiveness, it is necessary to perform confirmatory factor analysis from the perspective of structural

validity and differential validity to test the validity of the scale.

(1) Structural validity. The factors of each variable were extracted by the principal component analysis method in factor analysis, the factor rotation then showed that there were 4 principal components with eigenvalues greater than 1, and the cumulative variance of 4 principal components accounted for 73.123%, indicating that the structural validity of each variable in this paper was relatively good. In addition, the maximum factor variance explanatory degree in the table is 37.954% (<40%), which proves that the common method problem deviation of each variable in this paper is not obvious.

(2) Discriminant validity. AMOS software is used to test the validity of the distinction between the four variables: digital transformation, technological innovation ability, strategic orientation, and enterprise performance. The single-factor, two-factor, three-factor, and four-factor models were compared, and if the CMIN/DF values were less than 2, the RMSEA values were < 0.5, and the GFI, IFI, TLI, CFI values were > 0.9 indicates that the model is well adapted. As shown in Table 4 below, by comparing the fitting coefficients of the four models, the CMIN/DF value of the four-factor model is 0.998, and the values of RMSEA, GFI, IFI, TLI and CFI are 0, 1, 1, 1, 1, and the values of GFI, IFI and TLI are greater than 0.9, indicating that the fitting effect of the four-factor model is the best, and the discriminant validity of each variable in this paper is good, which is suitable for subsequent research.

Tab. 3. Confirmatory factor analysis results

Model	CMIN	DF	CMN /DF	RMS EA	GFI	IFI	TLI	CFI
Four-factor model	202.639	203	0.998	0	0.922	1	1	1
Three-factor model	776.694	206	3.37	0.115	0.671	0.818	0.794	0.817
Two-factor model	1284.672	208	6.176	0.157	0.524	0.656	0.616	0.654
One-factor model	1864.424	209	8.921	0.194	0.419	0.471	0.412	0.468

Four-factor model: Digital transformation, technological innovation capability, strategic orientation, enterprise performance

Three-factor model: Digital transformation, technological innovation capability, strategic orientation + enterprise performance

TWO-factor model: Digital transformation, technological innovation capability + strategic orientation + enterprise performance

One-factor model: Digital transformation + technological innovation capability +strategic orientation + enterprise performance

"+"means integration.

(3) Path analysis. Through the path analysis of each variable, the standardized path coefficient between each variable is calculated, and the above research hypothesis is preliminarily verified. The specific path chart and path coefficient analysis table are shown in Table 4 and Figure 1 below: from the results in the table, it is known that the standardized path coefficient of digital transformation and enterprise performance is 0.284, the p-value is 0, indicating that the relationship between digital transformation and enterprise performance is a significant positive one. The same below, the standardized path coefficients of digital transformation and technological innovation capability, technological innovation capability and enterprise performance are 1.075 and 0.299 respectively, the p-value are all 0, which proves that there is a significant positive correlation between digital transformation, technological innovation capability and enterprise performance. Hypotheses H1, H2a, H2b and H2 are initially verified. Strategic orientation and technological innovation capability are also significantly positively correlated, but the interaction between digital transformation and strategic orientation is significantly negatively correlated with technological innovation capability. The above analysis results pave the way for subsequent analysis. Hypothesis H3 is not supported for the time being

Tab. 4. Path coefficient analysis table

X→Y	SE	p	Normalize path coefficients
Strategic orientation→ Technological innovation capability	0.191	0	1.121
Interactive items → Technological innovation capability	0.05	0	-1.339
Digital transformation → Technological innovation capability	0.189	0	1.075
Technological innovation capability → Enterprise performance	0.061	0	0.299
Digital transformation → Enterprise performance	0.064	0	0.284
→Represents a path influence relationship			

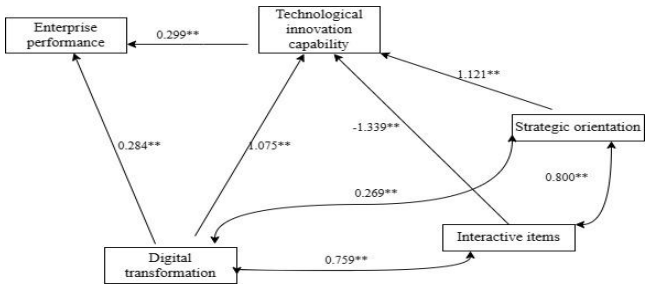

Fig. 1. Path analysis diagram

4.3 Descriptive statistics and correlation analysis

The SPSS statistical analysis tool was used to descriptively analyze each variable in this paper. The results are shown in Table 5 below: digital transformation, technological innovation ability and enterprise performance are significantly positively correlated, and the correlation coefficient is greater than 0, p<0.000. The results of correlation analysis once again confirmed the rationality of the above hypotheses H1 and H2, and enhanced the confidence of subsequent regression analysis.

4.4 Multicollinearity diagnosis

According to the results from the correlation analysis above, the four variables selected in this paper have a significant positive correlation in pairs. Although the value of the correlation coefficients, it does not exceed 0.5, the variance inflation factor must be tested to ensure that there is no multicollinearity.

Tab. 5. Descriptive Statistics and Correlation Analysis (N=211)

variable	Average value	Standard Deviation	1	2	3	4	5	6	7	8	9	10
Position	1.37	0.71	1									
Jobs	5.43	2.99	0.86	1								
Establishment time	2.02	0.96	0.01	-0.02	1							
Number of employees	3.12	1.30	0.05	-0.01	-0.03	1						
Annual sales	2.90	0.78	-0.10	-0.03	0.09	-0.02	1					
Nature of enterprise	2.27	1.08	-0.01	0.09	0.02	-0.04	-0.07	1				
Digital transformation	3.97	0.94	-0.02	-0.06	0.02	-0.10	0.09	-0.16	1			
Technological innovation capability	3.93	0.99	-0.01	-0.05	0.04	-0.07	0.04	0.09	0.36	1		
Strategic orientation	3.93	1.02	0.04	0.08	-0.03	0.04	0.03	-0.07	0.27	0.34	1	
Enterprise performance	4.02	0.94	-0.08	-0.17	-0.03	0.02	0.16	-0.10	0.40	0.40	0.38	1

The analysis results are shown in Table 6: the VIF value of all variables is greater than 1 (0<VIF<10), meeting the standard and suitable for hierarchical regression analysis.

Tab. 6. Collinearity diagnosis table

	variable	VIF	Correlation coefficient
Control variable	Position	1.021	-0.075
	Jobs	1.035	-0.165
	Establishment time	1.012	-0.025
	Number of employees	1.023	0.024
	Annual sales	1.029	0.164
	Nature of enterprise	1.075	-0.1
Independent variable	Digital transformation	1.242	0.399
intervening variable	Technological innovation capability	1.291	0.401
regulated variable	Strategic orientation	1.196	0.377
Dependent variable: Enterprise performance			

4.5 Principle effect analysis and mediation effect analysis

In this paper, the principal effect and mediation effect are tested through the method of hierarchical regression. The process can be divided into three steps: first, check whether digital transformation is significantly correlated with enterprise performance; if there is a significant correlation between the two, enter the second step; Second, test whether digital transformation is significantly correlated with technological innovation capability, and whether technological innovation capability is significantly correlated with enterprise performance. If the three variables are significantly correlated in pairs, enter the final step. Third, test whether there is a significant correlation between digital transformation and enterprise performance after adding technological innovation capability.

The specific model summary and effect analysis results are shown in Table 7. The results of Model 1 show that digital transformation is significantly positively correlated with enterprise performance. The results of Model 2 show that there is a significant positive correlation between digital transformation and technological innovation capability. The results of Model 3 show that technological innovation capability is significantly positively correlated with enterprise performance, and after adding technological innovation capability, the relationship between digital transformation and enterprise performance is still significantly positively correlated. The coefficients of the three regression models are of the same sign and significance, indicating that technological innovation capability plays a partial intermediary role. In summary, it is assumed that hypotheses H1, H2a, H2b and H2 are all supported in this paper.

In order to further test the accuracy of the partial intermediary role played by technological innovation ability, the mediation effect analysis is conducted again with the help of the Process program. The test results are shown in Table 8, the lower limit of Boot CI = 0.038, the upper limit of Boot CI = 0.213, and the interval of Bootstrap 95% does not contain 0, indicating that the mediating effect of technological innovation capability is significant. Direct effect (0.269) and intermediate effect (0.115) accounted for 70.1% and 29.9% of the total effect (0.384) respectively. Hypothesis H2 is further supported.

Tab . 7 . Principle effect and mediation effect analysis results table

Variable	Model 1	Model 2	Model 3
	Enterprise performance	Technological innovation capability	Enterprise performance
Control variable	B	B	B
Position	-0.063	0.003	-0.064
Jobs	-0.042*	-0.013	-0.038*
Establishment time	-0.042	0.027	-0.05
Number of employees	0.046	-0.022	0.052
Annual sales	0.152*	0.02	0.146*
Nature of company	-0.014	0.141*	-0.055
Independent variable：Digital transformation	0.384**	0.397**	0.269**
Intervening variable：Technological innovation capability			0.290**
R^2	0.203	0.154	0.283
Adjust R^2	0.176	0.125	0.254
F Value	F (7,203)=7.407,p=0.000	F (7,203)=5.287, p=0.000	F (8,202)=9.953, p=0.000
* p<0.05 ** p<0.01			

Tab. 8. Total effect, direct effect and intermediate effect breakdown table

c	a	b	a*b	a*b	a*b	a*b	a*b	c'
Total effect			Intermediate effect value	Boot SE	Z value	p value	95% Boot CI	Direct effect
0.384**	0.397**	0.290**	0.115	0.046	2.524	0.012	0.038~0.213	0.269**
Digital transformation→ Technological innovation capability →Enterprise performance； * p<0.05 ** p<0.01								

4.6 Analysis of Moderating Effect of Strategic Orientation

As above, the hierarchical regression method is used to test the moderating effect of strategic orientation between digital transformation and technological innovation capabilities. Before the analysis, first centralize the three variables: digital transformation, strategic orientation, and technological innovation capability. Multiply the digital transformation and strategic orientation after centralized processing as an interaction item, and then add the interaction item for regression analysis, and observe whether its standardized coefficient is significant.

The specific model and moderation effect analysis results are shown in Table 9: the results show that the interaction term between digital transformation and strategic orientation has a significant influence, but the coefficient is -0.304, that is, strategic orientation has a negative correlation in the influence of digital transformation and technological innovation capability. Hypothesis H3 in this study is not supported.

It can be seen from the results from the table above that the interaction terms between digital transformation and strategic orientation are significant, indicating that when digital transformation has an impact on technological innovation capability, the magnitude of the impact is significantly different at different levels of strategic orientation, as shown in Table 10: in the case of high level strategic orientation, the confidence interval is [-0.210, 0.176], including 0, and the moderating effect is not significant. In the case of low level strategic orientation, the confidence interval is [0.315, 0.602], and the moderating effect is significant.

Tab. 9. Moderating Effect Analysis Table

Variable	Model 1	Model 2	Model 3	Model 4
	B	B	B	B
Positions	0.002	0.002	-0.007	-0.01
Jobs	-0.056	-0.04	-0.066	-0.06
Establishment time	0.031	0.026	0.035	0.051
Number of employees	-0.067	-0.028	-0.045	-0.047
Annual sales	0.042	0.016	0.013	0.019
Nature of enterprise	0.097	0.154	0.163	0.164
Digital transformation		0.375**	0.299**	0.209*
Strategic orientation			0.279**	0.195*
Digital transformation * Strategic orientation				-0.304**
R^2	0.019	0.154	0.225	0.298
$\triangle R^2$		0.135	0.071	0.073
F	0.668	5.287	7.337	9.492

Model 1 intervening variable：Control variable
Model 2 intervening variable：Control variable、Digital transformation
Model 3 intervening variable：Control variable、Digital transformation、Strategic orientation
Model 4 intervening variable：Control variable、Digital transformation、Strategic orientation、Interaction term
Dependent variable：Technological innovation capability
* p<0.05 ** p<0.01

Tab. 10. Simple slope analysis table

Regulating variable level	Regression coefficient	Standard error	*t*	*p*	95% CI	
Average value	0.221	0.069	3.182	0.002	0.085	0.357
High level (+1SD)	-0.017	0.0	-0.169	0.866	-0.210	0.176
Low level (-1SD)	0.459	0.073	6.263	0.000	0.315	0.602

Therefore, it is not difficult to understand that, under high level strategic orientation and low-level strategic orientation, the relationship between digital transformation and technological innovation capability is as follows: under low level strategic orientation, the positive influence of digital transformation on technological innovation capability can be significantly strengthened; while the moderating effect under high level strategic orientation is not significant.

4.7 Hypothesis Verification Result

In summary, the analysis results show that the research hypotheses H1, H2, H2a and H2b proposed in this paper are supported by data, indicating that digital transformation will further affect enterprise performance through technological innovation capability, and that strategic orientation plays a negative moderating role between digital transformation and technological innovation capability. The specific empirical results of this study are summarized in Table 11:

Tab. 11. Research hypothesis results

Serial number	Research hypothesis	Inspection result
H1	Digital transformation has a significant positive effect on enterprise performance.	Support
H2	Technological innovation ability mediates the impact of digital transformation on enterprise performance.	Support
H2a	Digital transformation has a significant positive effect on technological innovation ability.	Support
H2b	Technological innovation ability has a significant positive effect on enterprise performance.	Support
H3	Strategic orientation positively moderates the relationship between digital transformation and technological innovation capability	Do not support

5. Suggestions and Enlightenment

5.1 Suggestions at the Enterprise Level

According to the research, digital transformation has a significant positive effect on enterprise performance. In the era of digital economy, it is imperative to carry out digital transformation in order to improve the performance of enterprises. First of all, enterprises should coordinate the integration of their own resources and digital technology based on their own conditions, and comprehensively analyze the internal and external environment to choose the suitable digital transformation strategy and transformation approach. Specifically, increase the investment in technology research and development, improve the innovation system and relevant capabilities required for digital transformation; avoid the waste of enterprise capital, technology and resources. Secondly, special attention should be paid to the cultivation of digital talents and their role in transformation and upgrading: on one hand, we should pay attention to the cultivation and introduction of digital talents in enterprises, actively carry out digital technology training for employees, improve their understanding of digital concepts and technologies, encourage them to incorporate digital skills into daily work practice, and strengthen the introduction of professionals; on the other hand, enterprises should increase capital investment, improve their welfare system, and employee enthusiasm through equity incentive and other effective incentives. Finally, the intellectual property protection of digital technology and digital products should be strengthened.

5.2 Government Level

On one hand, the government can actively guide and encourage enterprises to carry out digital transformation through systematic design. For example, subsidies and tax incentives may be granted to enterprises engaged in digital transformation through the introduction of relevant preferential policies to reduce the cost of enterprise transformation. Meanwhile, relevant policies and supporting measures should be formulated and improved to further encourage enterprises' willingness to carry out digital transformation. On the other hand, give full play to the functions of social management, build a digital industrial platform, establish a coordination management department, and provide essential services for the digital transformation of enterprises by increasing investment in professional personnel training and practical training.

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