



Research on Organizational Innovation Atmosphere, Organizational Learning, and Innovation Performance in Enterprise Digital Transformation

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Abstract

Background and Aims: With the deepening of the global technological revolution, enterprises are facing an increasingly complex and changing competitive environment. Enterprise digital transformation has become the only way to adapt to environmental changes and reshape competitive advantages. From the perspective of organizational behavior, this paper explores the impact of organizational innovation atmosphere and organizational learning on the digital transformation performance (innovation performance) of technology-based SMEs, and examines the moderating role of employee strategic consensus, to provide theoretical guidance and practical inspiration for the successful implementation of digital transformation in enterprises.

Methodology: This study takes organizational innovation atmosphere as the independent variable, organizational learning as the mediating variable, innovation performance as the dependent variable, and employee strategic consensus as the moderating variable to construct a theoretical model. A questionnaire survey was conducted on 718 employees of 108 technology-based SMEs. SPSS 21.0 was used to conduct reliability analysis, validity analysis, correlation analysis, and regression analysis on the collected valid questionnaire data to test the research hypotheses.

Results: The empirical research results show that: (1) organizational innovation atmosphere has a significant positive impact on innovation performance; (2) organizational innovation atmosphere positively affects innovation performance through organizational learning, that is, organizational learning plays a mediating role between the two; (3) employee strategic consensus positively moderates the relationship between organizational innovation atmosphere and innovation performance and between organizational innovation atmosphere and organizational learning.

Conclusion: The organizational innovation atmosphere, organizational learning, and employee strategic consensus influence each other and jointly promote the digital transformation of technology-based SMEs, thereby improving innovation performance. This study reveals the internal mechanism of organizational factors affecting the effectiveness of enterprise digital transformation, to provide useful inspiration for the management practice of SMEs.

Keywords: Enterprise digital transformation; Organizational innovation atmosphere; Organizational learning; Innovation performance

Introduction

Digital transformation is a reform measure that combines digital technology with business models, and enterprises transform their business models and even the overall structure of enterprises by introducing and using digital information technology.

In the past decade, under the influence of external factors such as the intensification of the Sino-U.S. trade war, the global pandemic, and local wars, the economic environment and market demand have undergone tremendous changes, making the external living environment of enterprises increasingly complex. Subtle geopolitics directly affects the global energy, financial, and economic landscape, and will continue to impact the living environment of global enterprises for some time to come.

At the same time, the global technological revolution has not only made breakthroughs in various fields but also entered a stage of multi-technology integration. Once this technological breakthrough and integration reaches a breakthrough point, it will trigger exponential growth and the crossing of boundaries between industries, causing huge changes in the entire technological level and the industry in which the enterprise is located. The drone warfare tactics that have emerged in several local wars in recent years and are becoming increasingly mature are the product of the cross-integration of a series of technologies such as satellites, sensors, energy storage, power, AI, and face recognition. This integration has produced a new combat power, changing the traditional mode of offensive and defensive warfare and key personnel





defense warfare. The party that takes the lead in using this technology integration can often gain an overwhelming battlefield advantage at a very low cost.

The survival environment faced by enterprises is also like a rapidly changing battlefield. Under the dual uncertain environment brought about by the external environment and technological progress, the only way to adapt to environmental changes is to change the internal environment and find opportunities for enterprises to respond quickly, reduce costs increase efficiency, and even survive the fittest. At present, traditional business models and market demands are facing the risk of being iterated, such as traditional hypermarkets being iterated by online sales models, and online shopping malls being iterated by short video delivery models, etc. For enterprises in this huge wave of change, new marketing models are needed to deal with risks externally, and operating models need to be adjusted internally to reduce costs and increase efficiency. The digital transformation of enterprises based on new technologies has become the only way for enterprises to adapt to uncertain environments.

Many factors determine whether the digital transformation of enterprises can be successful, and enterprises that have successfully transformed often have their reasons. For enterprises that fail in digital transformation, it is often not a problem of technical capabilities, but that the organization and team do not have the corresponding capabilities to support the transformation. From the perspective of organizational behavior, studying digital transformation from theories such as organizational innovation and organizational learning may reveal some commonalities and key factors for the success of digital transformation of enterprises.

From the perspective of research on digital transformation of enterprises, previous studies have mainly focused on organizational innovation and technological iteration such as digitalization of management processes, automation of production processes, precision of sales processes, and flexibility of organizational structures. The perspectives that drive the digital transformation of enterprises are divided into the competitive environment perspective, social network perspective, and organizational innovation perspective. In the process of digital transformation of enterprises, new problems and new directions of exploration have arisen in various aspects such as the organizational mode of enterprise production and operation, communication mode, and psychological activities and behavioral reactions of people in their work. Any enterprise, even if it is a fully intelligent unmanned production, as long as it is maintained or managed by people, is in line with the research scope of organizational behavior. Technical issues are only the material carriers of the digital transformation of enterprises. What determines the success or failure of digital transformation is still personal behavior, organizational relationships, and even problems of enterprise operation.

This study believes that factors such as enterprise innovation environment, organizational learning, employee strategic consensus, and innovation performance in organizational behavior can be used to explore and study related topics such as the success or failure of the digital transformation process of enterprises. Digital transformation is not just a simple internal change of the enterprise, but a comprehensive change and transcendence of the enterprise's boundaries, while also changing the interaction mode between the enterprise and external participants and customers. The success of the digital transformation of an enterprise ultimately depends on the human factor. In the journey of digital transformation, enterprises need to understand that the role of people is not only an executor but also a driver of innovation. Employee participation and strategic recognition will play a key role in digital transformation and become an indispensable force for enterprises to successfully move towards a digital future.

Objectives

1. Explore the impact of organizational innovation atmosphere on the digital transformation performance of technology-based SMEs.
2. Test the mediating role of organizational learning between organizational innovation atmosphere and innovation performance.

3. Examine the moderating effect of employee strategic consensus on organizational innovation atmosphere, innovation performance, and organizational learning.

Literature review

I. Variable selection, interrelationships, and hypotheses

1. Organizational atmosphere and innovation performance

According to James (1999) and Reichers and Schneider (1999), organizational atmosphere refers to the cognition of organizational members on the environment in which they are located, which is deepened into the common perception of members on all aspects of the entire organizational environment, including the cognition of policies, implementation procedures, and methods. Organizational innovation atmosphere refers to the overall perception of organizational members on the innovation capabilities within the organization, including the subjective perception and cognitive description of the organization's management methods, management systems, and whether the relevant affairs within the organization are innovative. It is a concept extended from the organizational atmosphere. Zheng et al. (2009) believed that organizational innovation atmosphere can effectively predict innovation performance. Wu And You (2011) analyzed some manufacturing companies and found that the organizational innovation atmosphere has a direct impact on the technological innovation performance of enterprises.

There is a close relationship between the organizational innovation atmosphere of digital transformation enterprises and the innovation performance that determines the success of the transformation. First, the organizational innovation atmosphere can stimulate the innovation potential and enthusiasm of employees and promote their transformation of innovative behavior and thinking mode in digital transformation. Secondly, the organizational innovation atmosphere can provide support and motivation for digital transformation, helping enterprises to better adapt to market changes and create new business opportunities. Finally, the organizational innovation atmosphere can affect employees' innovation ability and innovation motivation, and thus have a positive impact on the innovation performance of digital transformation. In enterprises with a good organizational innovation atmosphere, innovation and adjustment are normal state. Both organizations and individuals have a certain tolerance for innovation risks and are more likely to accept digital transformation, which may involve fundamental changes in business, processes, and rights. Therefore, this study proposes:

H1: Organizational innovation atmosphere has a significant positive impact on innovation performance

2. Organizational innovation atmosphere and organizational learning

To encourage and support innovation, organizations need to create a positive innovation atmosphere and cultivate and develop organizational learning capabilities. In the process of digital transformation, the organizational innovation atmosphere can stimulate employees' innovation awareness, encourage them to actively participate in innovation activities, and provide support and resources for innovation. Employees are not only passive participants in the atmosphere but may also be creators of a specific atmosphere. Employees and the organizational atmosphere form a certain binding relationship to achieve the strategic goals of the organization and personal goals. By establishing a positive innovation atmosphere and specific incentives, organizations can effectively promote the innovation process of digital transformation.

The study of organizational learning originated from the concept proposed by March et al. in 1958, which aims to explore organizational adaptability. Argyris (1977) believes that learning is first of all the accumulation of knowledge and the internalization and storage of information, while organizational learning is the process of self-examination, error correction, and behavior adjustment of organizational management issues by organizational members. Chen and Ma (2000) believe that organizational learning is to adapt to the dynamic environment, collect, refine, create, and apply management knowledge, redesign management, and business processes, and ensure the healthy and harmonious development of the



organization. Meeus (2001) also emphasized the role of organizational learning in change and innovation, by introducing new knowledge and combining it with old knowledge to form new knowledge, improve employee capabilities, and enhance the skills and capabilities of the organization.

Organizational learning is a learning activity taken by enterprises to achieve goals and improve competitiveness. In digital transformation enterprises, organizational learning can promote individual learning and skill improvement of employees, and help them adapt to new work requirements and technological changes. At the same time, organizational learning also promotes the sharing and transfer of knowledge, strengthens collaboration and cooperation between teams, and has an important impact on the formation and maintenance of an innovative atmosphere.

There is a close relationship between organizational innovation atmosphere and organizational learning. A positive innovation atmosphere can promote the development of organizational learning, while organizational learning provides support and a foundation for the formation and maintenance of an innovation atmosphere. In digital transformation enterprises, a positive innovation atmosphere can stimulate employees' interest and motivation in learning and promote the accumulation and dissemination of new knowledge and skills by providing necessary resources and support and strengthening team cooperation. Organizational learning promotes collaboration and communication within the organization, helps all employees learn from each other and draw on experience, achieves teamwork and knowledge-sharing goals, provides a basis for innovation, and promotes the improvement of the organization's innovation capabilities. The two jointly promote the improvement of the innovation capabilities and competitiveness of digital transformation enterprises. Therefore, this study proposes:

H2: Organizational innovation atmosphere has a significant positive impact on organizational learning.

3. Organizational innovation atmosphere, organizational learning, and innovation performance

Performance is a comparison of input and output, an important criterion for evaluating the fit between an enterprise's behavior and the final result. The process of evaluating performance is also a process of choosing different paths and adjusting behaviors. From the perspective of innovation performance research, Ahuja and Curba (2001) believe that innovation performance is the process of introducing a market evaluation mechanism to evaluate innovation results, and then also includes the results of innovation, technology, and invention. Lin Wenbao (2001) believes that innovation performance includes results related to process innovation and performance related to products.

In terms of the relationship between organizational innovation atmosphere, organizational learning, and innovation performance, the research of scholars at home and abroad shows that a strong organizational innovation atmosphere can significantly improve employees' innovation awareness and behavior, thereby promoting the improvement of innovation performance. The formation of an innovation atmosphere not only depends on the organization's material resource investment but more importantly, the role of leadership and the cultivation of organizational culture. This innovative culture and environment include organizational values that encourage innovative thinking, management systems that support risk-taking, and a work atmosphere that promotes the sharing and experimentation of new ideas, thereby motivating employees to generate more innovative ideas and behaviors. Studies have shown that the innovation atmosphere is positively correlated with innovation performance, that is, the stronger the innovation atmosphere, the better the innovation performance.

In the process of enterprise digital transformation, the dynamic combination of organizational innovation atmosphere and organizational learning is an important factor in promoting innovation performance. Digital transformation involves not only the updating and application of technology but more importantly, the transformation of corporate culture and organizational structure. The organizational innovation atmosphere provides employees with an innovative culture and environment, motivating them to actively participate in the transformation process. Organizational learning promotes innovation through





information sharing and knowledge construction, ensuring that employees can quickly master new technologies and tools and effectively respond to changes. The interaction between the two can promote the improvement of the innovation performance of enterprises in the process of digital transformation.

In general, the interaction between organizational innovation atmosphere, organizational learning, and innovation performance is crucial to the sustainable growth and competitiveness of enterprises. By building a positive innovation atmosphere and implementing effective organizational learning strategies, enterprises can promote the creation, sharing, and application of knowledge, thereby achieving continuous improvement of innovation performance. In the formulation of digital transformation strategies, leaders should pay attention to the cultivation of innovation culture and the construction of knowledge management systems, encourage employees' innovation and learning, and drive the long-term development and success of enterprises. Therefore, this study proposes the following hypothesis:

H3: Organizational learning has a significant positive impact on innovation performance.

H4: Organizational learning has a significant mediating role between organizational innovation atmosphere and innovation performance.

4. Employee strategic consensus regulates organizational innovation atmosphere and organizational learning

Organizational learning in the process of digital transformation of enterprises can connect the knowledge distributed in different links of the enterprise. Through organizational learning, the flow and sharing of knowledge are formed within the enterprise, which is conducive to building employee consensus, eliminating employee doubts and resistance, and reducing the difficulty of implementing digital transformation. The experience of learning and acquiring new knowledge together often deepens the trust and willingness to cooperate among employees. As a small learning team, they have a stronger sense of attachment to the organization and trust the organization and other members.

Strategic consensus was originally defined as the consensus of senior managers on the strategic goals and means of achieving the enterprise. Wooldridge and Floyd's research expanded it to include three aspects: consensus content, consensus scope, and consensus degree. As the research deepens, the understanding of strategic consensus is no longer limited to senior managers but is understood as the consensus of managers at all levels of the enterprise on the strategic focus of the enterprise.

Enhancing the strategic consensus on the digital transformation of the enterprise can reduce the deviation and disagreement of employees' understanding of the overall strategy, promote the formation of a unified vision and goal of organizational members, and enhance the cohesion and centripetal force of enterprise members. Employees who agree with the organizational strategy are more willing to cooperate with others and are willing to strengthen information and knowledge sharing within the organization, thereby triggering a synergistic effect. When employees have a high strategic consensus on the organizational strategy, it is easier for employees to have high-quality interactive exchanges. The external manifestation is that they have a higher mental model and are willing to promote the effective integration of internal and external resources through sharing and cooperation. For enterprise managers and employees, the digital transformation of an enterprise may first affect the existing knowledge, skills, positions, and corresponding rights structure. If employees cannot reach a consensus on the organization's strategy, or form a negative consensus, it may hinder the digital transformation of the enterprise.

Employee strategic consensus plays an important regulatory role in organizational innovation atmosphere and organizational learning. It can promote employees' understanding and recognition of organizational strategic goals, enhance cooperative behavior among employees, and provide support for organizational innovation and digital transformation. Therefore, organizations should focus on improving the level of strategic consensus among employees, and stimulate employees' innovation and learning motivation by strengthening strategic communication and information-sharing mechanisms to promote the sustainable development of the organization.

Therefore, this study proposes the following hypotheses:



H5: Employee strategic consensus has a significant positive moderating effect on the relationship between organizational innovation atmosphere and innovation performance

H6: Employee strategic consensus has a significant positive moderating effect on the relationship between organizational innovation atmosphere and organizational learning

Conceptual Framework

Based on the overview and analysis of relevant theories, this study analyzes the impact of factors such as organizational innovation atmosphere, organizational learning, and employee strategic consensus on enterprise digital transformation performance (innovation performance), and proposes a theoretical framework:

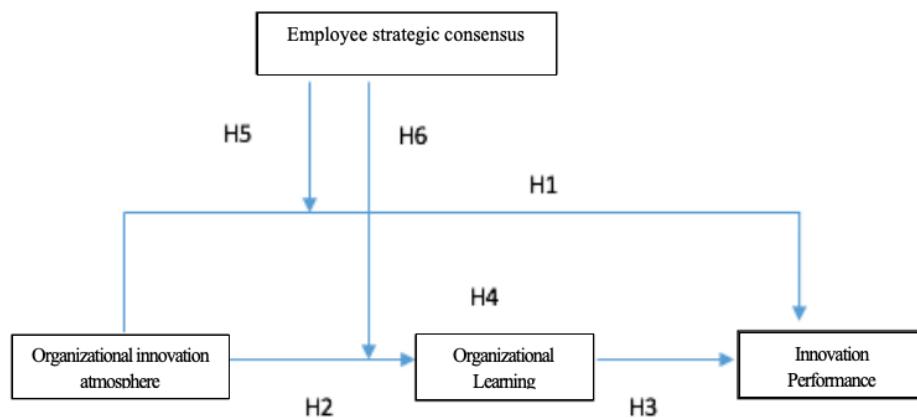


Figure 1 Conceptual framework diagram

First, the organizational innovation atmosphere plays an important role in the digital transformation of enterprises. Digital transformation requires innovation awareness and support within the organization, and the existence of an innovative atmosphere can stimulate employees' innovation ability and enthusiasm. Therefore, this study assumes that in enterprises with a positive innovation atmosphere, the innovation performance of digital transformation will be more significant.

Second, organizational learning also has an important impact on digital transformation performance. Digital transformation is a complex change process that requires organizations to be able to continuously learn and adapt to new technologies and knowledge. Through organizational learning, enterprises can effectively integrate internal and external resources and knowledge to improve the execution effect of digital transformation. Therefore, this study assumes that enterprises with higher organizational learning capabilities will achieve better innovation performance in the process of digital transformation.

In addition, employee strategic consensus is also an important factor affecting digital transformation performance. The degree of common understanding and recognition of employees on the strategic goals of the organization will affect their actions and coordination in digital transformation. A high degree of employee strategic consensus can promote the sharing of information and knowledge, strengthen cooperation among employees, and thus improve the efficiency and performance of digital transformation. On the contrary, it will hinder, delay, or even destroy. Therefore, this study assumes that enterprises with higher employee strategic consensus will show better innovation performance in the process of digital transformation.

Methodology

1. Research Model and Hypotheses

Based on the literature review and theoretical framework, this study proposed a research model that explores the relationships among organizational innovation climate, organizational learning, employee strategic consensus, and innovation performance in the context of the digital transformation of high-tech SMEs. The following hypotheses were developed:

H1: Organizational innovation climate has a significant positive impact on innovation performance.

H2: Organizational innovation climate has a significant positive impact on organizational learning.

H3: Organizational learning has a significant positive impact on innovation performance.

H4: Organizational learning mediates the relationship between organizational innovation climate and innovation performance.

H5: Employee strategic consensus positively moderates the relationship between organizational innovation climate and innovation performance.

H6: Employee strategic consensus positively moderates the relationship between organizational innovation climate and organizational learning.

The target population for this study consisted of employees from high-tech small and medium-sized enterprises (SMEs) in China that were undergoing or had recently undergone digital transformation. To ensure a representative sample, a multi-stage sampling approach was employed:

Stage 1: Geographic Stratification

Five major economic regions in China were selected: Eastern China, Southern China, Central China, Northern China, and Western China. This ensured geographical diversity and representation of different economic development levels.

Stage 2: Industry Selection

Within each region, high-tech SMEs from various industries were targeted, including but not limited to information technology, biotechnology, new energy, advanced manufacturing, and artificial intelligence. This industry diversity allowed for a comprehensive view of digital transformation across different sectors.

Stage 3: Company Selection

Using local business directories and recommendations from industry associations, a list of eligible SMEs was compiled. To be eligible, companies had to meet the following criteria:

Employ between 50 and 500 employees

Have been in operation for at least three years

Be actively engaged in or have recently completed a digital transformation initiative

Stage 4: Participant Selection

Within each selected company, employees from different hierarchical levels and departments were invited to participate, ensuring a diverse perspective on the organization's digital transformation efforts.

The final sample consisted of 718 valid responses from employees of 108 high-tech SMEs. The sample covered various industries, firm sizes, and ownership types, enhancing the generalizability of the findings.

2. Measurement

A questionnaire survey was conducted to collect data. The measurement scales for each variable were adapted from previous studies, and a 5-point Likert scale (1=strongly disagree, 5=strongly agree) was used. The questionnaire consisted of four parts: organizational innovation climate, organizational learning, employee strategic consensus, and innovation performance.

3. Data Collection and Sample

The questionnaire was distributed to employees from 108 high-tech SMEs in China. A total of 768 questionnaires were returned, of which 718 were valid, resulting in a response rate of 93.4%. The sample covered a wide range of industries, firm sizes, and ownership types, ensuring the representativeness and generalizability of the findings.



4. Data Analysis Methods

SPSS 21.0 was used for data analysis. First, descriptive statistics were conducted to present the basic characteristics of the sample. Second, reliability and validity tests were performed to ensure the quality of the measurement scales. Cronbach's α coefficient was used to assess the internal consistency reliability, and exploratory factor analysis (EFA) was employed to examine the construct validity. Third, correlation analysis was conducted to preliminarily test the relationships among variables. Finally, hierarchical regression analysis was used to test the research hypotheses, including the main effects, mediation effects, and moderation effects.

Results

1. Reliability and Validity Tests

The Cronbach's α coefficients for organizational innovation climate, organizational learning, employee strategic consensus, and innovation performance were 0.914, 0.859, 0.905, and 0.869, respectively, all exceeding the recommended threshold of 0.7, indicating good internal consistency reliability. The KMO value was 0.937, and Bartlett's test of sphericity was significant ($p<0.001$), suggesting that the data were suitable for factor analysis. The EFA results showed that all items loaded significantly on their respective factors, with factor loadings ranging from 0.496 to 0.852, demonstrating satisfactory construct validity.

2. Descriptive Statistics and Correlation Analysis

The means, standard deviations, and correlations among the study variables are presented in Table 1. The results showed that organizational innovation climate was positively correlated with organizational learning ($r=0.465$, $p<0.01$) and innovation performance ($r=0.488$, $p<0.01$). Organizational learning was positively correlated with innovation performance ($r=0.560$, $p<0.01$). Employee strategic consensus was positively correlated with organizational innovation climate ($r=0.225$, $p<0.01$), organizational learning ($r=0.343$, $p<0.01$), and innovation performance ($r=0.415$, $p<0.01$). These results provided preliminary support for the hypothesized relationships.

3. Hypotheses Testing

3.1 Main Effects

The regression results showed that organizational innovation climate had a significant positive impact on innovation performance ($\beta=0.486$, $p<0.001$) and organizational learning ($\beta=0.463$, $p<0.001$), supporting H1 and H2. Organizational learning had a significant positive impact on innovation performance ($\beta=0.556$, $p<0.001$), supporting H3.

3.2 Mediation Effect

The mediation effect of organizational learning was tested using the bootstrapping method. The results showed that the indirect effect of organizational innovation climate on innovation performance via organizational learning was significant (95% CI=[0.194, 0.325]), supporting H4. The direct effect of organizational innovation climate on innovation performance remained significant ($\beta=0.291$, $p<0.001$), indicating a partial mediation effect.

3.3 Moderation Effects

The moderation effects of employee strategic consensus were tested using hierarchical regression analysis. The interaction term between organizational innovation climate and employee strategic consensus was significant in predicting innovation performance ($\beta=0.112$, $p<0.001$) and organizational learning ($\beta=0.089$, $p<0.01$), supporting H5 and H6. The positive relationships between organizational innovation climate and innovation performance/organizational learning were stronger when employee strategic consensus was high.

Discussion

1. Theoretical Implications

This study makes several important contributions to the literature on digital transformation and innovation management in the context of high-tech SMEs. First, our findings highlight the crucial role of organizational innovation climate in driving innovation performance during digital transformation. By creating a supportive environment that encourages creativity, risk-taking, and experimentation, high-tech SMEs can foster innovation and achieve better transformation outcomes. This extends previous research on the antecedents of successful digital transformation (e.g., Vial, 2019; Verhoef et al., 2021).

Second, we reveal the mediating mechanism of organizational learning in the relationship between organizational innovation climate and innovation performance. Our results suggest that a strong innovation climate facilitates knowledge acquisition, sharing, and application within the organization, which in turn enhances innovation performance. This finding enriches our understanding of the underlying processes through which organizational factors influence digital transformation success (e.g., Nguyen et al., 2022; Warner & Wäger, 2019).

Third, we identify employee strategic consensus as a boundary condition for the effects of organizational innovation climate on innovation performance and organizational learning. When employees have a shared understanding and commitment to the firm's digital transformation strategy, the positive impact of the innovation climate on transformation outcomes is amplified. This finding contributes to the growing literature on the micro-foundations of digital transformation (e.g., Benner & Tushman, 2015; Hanelt et al., 2021) by highlighting the importance of employee cognition and behavior in shaping transformation processes and outcomes.

2. Practical Implications

Our study offers valuable insights for managers leading digital transformation in high-tech SMEs. First, managers should actively cultivate a strong organizational innovation climate by providing resources, incentives, and support for creative ideas and innovative initiatives. This may involve implementing flexible work arrangements, offering training and development opportunities, and recognizing and rewarding innovative contributions.

Second, managers should prioritize organizational learning as a key enabler of successful digital transformation. Establishing knowledge management systems, promoting cross-functional collaboration, and fostering a culture of continuous learning can help SMEs build the capabilities needed to navigate the challenges of digital transformation.

Third, managers should pay close attention to building employee strategic consensus around digital transformation. Communicating the vision, goals, and benefits of the transformation, involving employees in the planning and implementation process, and addressing their concerns and feedback can help align employee understanding and commitment with the overall transformation strategy.

3. Limitations and Future Research Directions

This study has several limitations that offer opportunities for future research. First, our cross-sectional design limits the ability to make causal inferences. Future studies could adopt longitudinal or experimental designs to establish the causal relationships among the study variables. Second, our sample is limited to high-tech SMEs in China, which may restrict the generalizability of our findings. Future research could validate our model in different industrial and cultural contexts. Third, we focused on organizational-level constructs in this study. Future research could investigate how individual-level factors, such as employee personality, motivation, and skills, interact with organizational factors to influence digital transformation outcomes.

Conclusion

After reliability and validity test analysis, correlation analysis, multivariate linear regression analysis, and the effect test of mediating variables and moderating variables, the following conclusions were drawn, which supported the theoretical framework constructed in Chapter 2 of this study:

1. Organizational innovation atmosphere has a significant positive impact on the results of enterprise digital transformation (innovation performance) (H1). The formation of an organizational



innovation atmosphere can stimulate the innovation awareness and ability of organizational members, thereby promoting the smooth progress of digital transformation.

2. Organizational innovation atmosphere has a significant positive impact on organizational learning (H2). This further determines the degree of acceptance of new knowledge, new processes, and new norms by enterprise employees. Organizational learning is a key link in the process of digital transformation. It prompts employees to continuously learn and adapt to changes and provides the necessary knowledge and capabilities for digital transformation.

3. Organizational learning has a significant positive impact on innovation performance (H3). In the process of digital transformation, organizational learning plays an important role, prompting organizational members to learn new knowledge together, overcome obstacles together, and get rid of the shackles of old ideas together. There is a mutually reinforcing relationship between organizational learning and innovation performance. During the communication process of distributing questionnaires in this study, most of the interviewees agreed that the company actively pursues continuous improvement, accepts various new creative activities, has a strong atmosphere of mutual assistance, and has good learning and training. The cases of several successful digital transformation companies investigated in the early stage of this study also revealed the positive impact of organizational learning on innovation performance.

4. Organizational learning has a significant mediating role between organizational innovation atmosphere and innovation performance (H4). The formation, maintenance, and change of the organizational innovation atmosphere are integrated with the organizational learning process. The two influence each other and jointly determine the success of digital transformation.

5. Employee strategic consensus has a significant positive moderating effect on the relationship between organizational innovation atmosphere and innovation performance (H5). Strategic consensus can only be formed when employees link the necessity and urgency of digital transformation with their interests. When employees feel that they will become victims or victims of digital transformation, they will resist digital transformation, which will in turn affect other people around them and their organizations.

6. Employee strategic consensus has a significant positive moderating effect on the relationship between organizational innovation atmosphere and organizational learning (H6). Employees' understanding and recognition of the digital transformation of the enterprise will affect the organizational innovation atmosphere and the process of organizational learning. Only when all employees form a positive consensus for their own and the interests of the enterprise, rather than just being threatened by administrative pressure or income, can a positive synergy be formed to promote the smooth progress and success of the digital transformation of the enterprise.

Organizational innovation atmosphere and organizational learning are complementary, and the consensus of all employees plays a vital role in the former two. Good strategic consensus will link the success of enterprise transformation with personal success. Employees are more inclined to find ways to overcome temporary difficulties and pursue the vision and goals of enterprise innovation together. In the process of digital transformation, good employee strategic consensus is conducive to employees making various suggestions. Employees will be more inclined to help colleagues and are willing to share information and resources with colleagues, that is, to regulate the influence of the composition of the innovation atmosphere on organizational learning. The digital transformation of Chinese enterprises is generally in the initial stage, and the evaluation of success or failure still needs time. The spirit of the surveyed subjects is generally high, so the regulatory effect of employee strategic consensus is positive and significant. The above factors are interrelated, jointly promoting the digital transformation of enterprises and having a positive impact on innovation performance. In practice, organizations should focus on creating a positive innovation atmosphere, enhancing organizational learning capabilities, and building strategic consensus with employees to promote the successful implementation of digital transformation.





Recommendation

In the current wave of technological revolution with the in-depth evolution of digital technology, enterprises are facing a more dynamic and open competitive environment. Global technological integration has begun to give rise to new products, services, and industry lines, and enterprises are in an environment of being subverted, replaced, and eliminated at any time.

Through digital transformation, enterprises can become more sensitive to environmental changes, adjust their strategies more quickly, improve the learning and adaptability of enterprise management and employees, and form a benign innovation atmosphere in enterprises, which may be the only way to cope with complex environments and complex changes. The content of enterprise digital transformation is not only the application of digital technology but also the establishment of a digital mindset, so that the enterprise as a whole, various organizations, and individuals in the enterprise are always in an environment of perception, learning, innovation, and change. Based on a new digital architecture, the existing corporate culture, business model, operation mode, organizational structure, etc. are innovated and reshaped to ultimately achieve the strategic goals and missions of the enterprise.

In the process of digital transformation, enterprises can use a series of top-level designs such as ideological transformation, strategic planning, and consensus reshaping to enable the digitalization of all things and structures of the enterprise, such as management, processes, and business, from top to bottom. This study believes that digital transformation includes the following aspects:

1. Technological transformation. Digital transformation is first of all the IT technology upgrade and system integration. Digital technology is undoubtedly the foundation of digital transformation.

2. Marketing digitalization. Marketing digitalization is the easiest field for enterprises to apply, and it is also the change that makes it easier to form a consensus. It often becomes the first trial-and-error module of digital transformation. Many companies have begun to launch online sales on e-commerce platforms, using private domain traffic, user portraits, and other technologies to transform digital stores and reshape marketing. Recently, they have entered the online video live broadcast, shaping the Internet celebrity IP, and then realizing the integration of online and offline marketing.

3. Internal management and operation digitalization. In this research survey, many digitally transformed enterprises have gradually carried out intensive operations, integrated operations, and data-based operations. The first step of digital transformation is to integrate various operation systems and promote the overall upgrade of operation management.

4. Business model and product innovation. Redefine the business model of the enterprise and explore the value of products through digital technology, discover new market opportunities, and try revolutionary changes, such as directly facing consumer needs through video marketing, reducing the weight of middlemen in the sales link, etc.

The decisive factor in the digital transformation of enterprises is not technical factors, but human factors. Like any other corporate change, digital transformation has both beneficiaries and losers. In particular, those managers who are familiar with the original operating rules, processes, and rights distribution mechanisms of the enterprise are often the most affected, and they may become obvious or hidden obstacles. Many enterprises often develop "big enterprise disease" after they grow to a certain scale, breeding various conservative and unenterprising negative factors in management mechanisms and functions, which may hinder the continued development of the enterprise and even lead to the decline and decline of the enterprise. "Big enterprise disease" is specifically manifested in symptoms such as bloated organization, multiple leadership, and talent loss. It is common in state-owned and private enterprises, usually generated in the senior management of the enterprise, and gradually spread to employees and all aspects of operations, resulting in management dilemmas that are helpless at all levels of the enterprise. The appearance of big enterprise disease is organizational structure problems, and the connotation is the lack of organizational innovation atmosphere. In the face of innovation and change, managers first consider the impact and benefits of their departments, rather than the feelings of customers or upstream and downstream businesses, which becomes an invisible resistance to innovation and change. Therefore,



the organization's innovation atmosphere, organizational learning ability, and whether the strategic consensus of employees is consistent often determine the success of the enterprise's digital transformation. Only with the combined effect of these factors can enterprises successfully implement digital transformation and gain sustainable competitive advantage.

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