

# Research on the Impact of Digital Transformation on Enterprise Investment Efficiency

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**Abstract**—In today's rapidly developing market environment, enterprises are facing unprecedented competitive pressure and challenges. From the current development of Chinese enterprises, there is a problem of low investment efficiency. Can digital transformation, as a tool for reshaping enterprise operation models, improve investment efficiency? Based on this issue, this article explores the mechanism and path of digital transformation on the investment efficiency of enterprises. Through digital transformation, enterprises can improve decision-making efficiency, optimize business processes, enhance customer experience, and ultimately achieve significant improvements in investment efficiency.

**Keywords**—*Digital Transformation; Investment Efficiency; Impact Path*

## I. INTRODUCTION

In recent years, the digital economy has become another major economic form after the agricultural economy and industrial economy. Driven by the global new technological revolution and industrial transformation, the deep integration of digital technologies represented by artificial intelligence, regional blockchain, and traditional industries is gradually becoming a new driving force for promoting social and economic transformation and development. At present, Chinese enterprises are facing many difficulties in investment. In terms of the market, the market is currently in a transitional period where traditional industries are shrinking and emerging industries are slowly expanding. In addition, the complexity of the external environment and the impact of the epidemic have slowed down market demand, leading to slow overall investment growth; In terms of enterprise efficiency, small and medium-sized enterprises are facing dual pressures of rising costs and declining efficiency. Overcapacity has led to a decline in profits, and external environmental changes have reduced export orders. For example, from January to June 2023, the profits of industrial enterprises above designated size in China decreased by 16.8% year-on-year, and the operating income profit margin was 5.41%, a decrease of 1.07% year-on-year. This profit decline not only weakens the investment ability of enterprises, but also reduces investment motivation; In terms of technology, under the background of international technology blockade, especially in the context of Sino US economic and trade frictions, Chinese enterprises face significant challenges in acquiring advanced technology and key components.

The paradox of information technology productivity presents room for further research on the economic consequences of digital transformation. Based on the information technology productivity paradox, the impact of digital transformation on investment efficiency may only exist in large enterprises or industry leaders, and the impact on small and medium-sized enterprises is relatively limited. So, under the institutional conditions in China, what impact will digital transformation have on the investment efficiency of

enterprises? What is the mechanism behind this? It is a matter of concern.

Digital technology has greatly changed the ecological environment for the survival and development of enterprises, reshaped their business models, and had a profound impact on many areas of enterprise management (Wu Yuzhe, 2024). "Accelerating the development of the digital economy and promoting the deep integration of the digital economy and the real economy" is a requirement proposed in the report of the 20th National Congress of the Communist Party of China. The deep integration and development of the digital economy and the real economy largely relies on enterprises promoting the digital transformation of the real economy through the digital economy. Digital transformation has become a key driving force for promoting enterprise development, especially as IT technology rapidly changes with technological advancements (Wu et al., 2024). Therefore, this article focuses on the relationship between digital transformation and enterprise investment efficiency, analyzing the relationship between digital transformation and enterprise investment efficiency, hoping to solve the problems currently faced by Chinese enterprises in investment through digital transformation.

The innovation of this article mainly lies in: firstly, in theory, through in-depth analysis of how digital transformation can significantly improve enterprise investment efficiency, it provides a new perspective for understanding enterprise investment behavior in the digital economy era in terms of improving decision-making efficiency, optimizing resource allocation, and reducing operating costs, and provides a new direction for theoretical development.

Secondly, in practice, this article constructs a multi-level path analysis framework based on multiple perspectives such as decision efficiency, resource allocation, and operating costs, providing reference for enterprises to carry out digital transformation and improve investment efficiency based on digital transformation. At the same time, the article provides strategic recommendations from a macro perspective for policy makers and decision-makers, taking into account policy backgrounds such as the 14th Five Year Plan.

## II. LITERATURE REVIEW

### A. Literature Review on Factors Affecting Enterprise Investment Efficiency

The academic community focuses on the investment efficiency of enterprises, which is related to their long-term high-quality development. Jing Xiuli and Yu Nan (2024) believe that the development of financial technology can enhance information utilization efficiency, fully leverage financing support, promote financial digitization, and alleviate financing constraints and exclusion, which has a positive impact on enterprise investment efficiency. Dai Luoxian and Wang Huiying (2024) found that there is a non-linear relationship between the development of the digital economy and the efficiency of corporate investment, and the digital

economy can improve corporate investment efficiency by reducing agency costs. Zhou Qinxuan (2024) summarized that supply chain information disclosure has a positive impact on the investment efficiency of enterprises. Xu Yunsong et al. (2023) found in their study that the financialization of enterprises has an inverted "U" - shaped impact on investment efficiency. Appropriate financialization can improve investment efficiency, while excessive financialization can reduce investment efficiency. Additionally, the financialization of small-scale enterprises suppresses investment efficiency, while the financialization of large-scale enterprises improves investment efficiency.

### ***B. Literature Review on The Economic Consequences of Enterprise Digital Transformation***

Digital transformation is a tool for reshaping the operational model of enterprises, which has triggered widespread economic consequences. Yao Youfu and He Xiangyi (2023) found that since 2016, the newly revised "Management Measures" by the Ministry of Science and Technology and other departments have suppressed the high-quality development of enterprises and exacerbated the problem of market information asymmetry. Digital transformation can reduce future research and development whitewashing behavior, and digital mechanisms can improve future innovation performance by alleviating research and development whitewashing. Yu Weiyun (2023) explored how digital technology can become the key to reshaping business processes and expanding businesses, pointing out a significant positive correlation between digital transformation and innovation performance. Sun Lanlan and Zhong Qin (2024) found that the integration of digitalization and business management provides favorable references for decision-making, and also provides new insights for government departments to formulate more targeted guidance policies. In addition, Yu Feifei (2022) proposed that the impact of enterprise digitization on innovation efficiency is non-linear. Dai Fei (2023) believes that digital transformation can simultaneously reduce costs and improve efficiency. Yuan Chun (2021) found that digitization can help improve production efficiency.

The existing literature has promoted the understanding of the relationship between digital transformation and enterprise investment efficiency, but there is still room for further development: firstly, the combination of theory and practice. This article not only theoretically analyzes how digital transformation can improve the investment efficiency of enterprises by improving decision-making efficiency, optimizing business processes, and enhancing customer experience, but also combines theoretical analysis with practical operational guidance to provide specific paths that enterprises can take in digital transformation. Secondly, the introduction of a dynamic capability perspective. Compared to existing literature that focuses more on static analysis, this article provides theoretical support and practical directions for enterprises on how to use digital tools in the constantly changing market environment from the perspective of dynamic capabilities. Thirdly, combining macro and micro perspectives. In analyzing the driving forces of digitalization, this article not only analyzes the urgency and importance of policy backgrounds such as the 14th Five Year Plan, but also provides a detailed analysis of specific factors such as efficiency, technology, and market at the enterprise level. Compared to other studies that analyze from a single perspective, this article provides a comprehensive and three-dimensional perspective for understanding digital transformation through a combination of macro and micro approaches.

### **III. ANALYSIS OF THE MOTIVATION FOR ENTERPRISE DIGITAL TRANSFORMATION**

This article will provide a detailed analysis of the motivations behind digitalization from the perspectives of policy, efficiency, technology, and market.

Firstly, in terms of policies, the 14th Five Year Plan emphasizes the strengthening of digital infrastructure such as high-speed broadband, 5G, and big data centers to support enterprise digital transformation, enhance information technology and investment efficiency. The plan encourages the integration of digital technology and the real economy, promotes industrial upgrading, reduces costs, and improves product quality and production efficiency. The White Paper on the Development of China's Digital Economy (2021) shows that the proportion of the digital economy to GDP has increased from 10.0% in 2002 to 38.6%. Among enterprises whose core business relies on digital strategies, this proportion has reached 42%, highlighting its importance in the national economy.

Secondly, in terms of technology, digital transformation transforms business models and cultures through technologies such as big data, cloud computing, and AI, with fintech becoming a driving force for transformation. By strengthening the use of digital financial technology products and services, different enterprises within the same industry can reduce information asymmetry in their target markets, balance industry returns, and ultimately achieve improved investment efficiency.

Thirdly, in terms of the market, digitalization promotes the development of new business models such as e-commerce and cloud computing, expands market potential, and intensifies competition, requiring enterprises to flexibly respond to the market and continuously innovate. In terms of information search, digital transformation is beneficial for enterprises to adjust their debt or equity financing ratios in a timely manner, optimize the quality of their capital structure, promote the upgrading of their value chain, and thus aggregate internal and external business and financial data through digital means, obtain a large amount of industry-leading information, and reduce information search and transaction costs.

### **IV. MECHANISM ANALYSIS OF ENTERPRISE DIGITAL TRANSFORMATION ON INVESTMENT EFFICIENCY**

#### ***A. Improve Decision-making Efficiency***

Based on the following reasons, digital transformation is beneficial for improving decision-making efficiency: firstly, enterprises can use advanced analytical tools to collect and process large amounts of data in real time, enabling them to quickly respond to market changes, make more timely and accurate decisions, and seize investment opportunities or avoid risks in advance. Enterprises can also use data mining techniques to deeply analyze historical data and potential patterns, identify trends and gain insights into consumer needs, in order to discover new market opportunities and improve products. Secondly, through machine learning methods, companies can establish predictive models to forecast sales, demand, and market trends. These models can help companies make more scientific predictions in investment decisions, reduce uncertainty and potential investment risks. Thirdly, enterprises are equipped with digital decision-making tools that can automatically share data and provide decision recommendations, reducing daily decision-making burden and allowing management to focus on higher-level strategic decisions. These tools can also help decision-makers make wiser investment choices by simulating different business and market scenarios.

### B. Optimize Resource Allocation

Firstly, digitization can improve resource utilization efficiency. Digitization enables enterprises to monitor resource usage in real time and dynamically adjust resource allocation based on project needs, reducing resource idle and waste. Through digital tools, enterprises can more accurately predict market demand, optimize inventory levels, reduce holding costs, and improve capital utilization efficiency, including improving transaction efficiency, reducing inefficient investments, and minimizing investment shortages during the transition period. Secondly, digitalization can promote business process optimization. Through automation tools such as Robotic Process Automation (RPA), enterprises can simplify repetitive tasks and improve work efficiency. In digitalization, analysis tools based on big data and artificial intelligence provide real-time decision-making for enterprises, improving the accuracy and response speed of decisions. Thirdly, digitalization can enhance asset utilization. Through the Internet of Things and digital twin technology, enterprises can monitor equipment status in real time, predict maintenance needs, extend equipment service life, and use mutual data analysis to identify inefficient assets and reconfigure or dispose of them, freeing up capital for more efficient investment.

### C. Reduce Operating Costs

Firstly, enterprises reduce a significant initial investment and maintenance cost in local data centers through cloud services. As cloud services are typically based on a pay as you go model, enterprises only need to pay for the services they actually use, effectively optimizing capital expenditures. Secondly, enterprises can integrate data from different sources and departments through digitization, establish a central database, help eliminate data silos, improve data consistency and availability, and reduce the cost of data analysis and management. Thirdly, the use of financial instruments by enterprises provides a more efficient way of fund management, helping them better control their financial situation and reduce financing costs.

### D. Improve Market Competitiveness

Firstly, enterprises utilize digital analysis tools to collect consumer data, gain a deeper understanding of consumer purchasing habits and preferences, and adjust marketing strategies based on the data to more accurately position products and services. They can also use big data and artificial intelligence technology to analyze market trends and potential demand, and use big data to more accurately position products and services. Secondly, enterprises can achieve personalized customization of marketing information by analyzing customer data, such as pushing advertisements for related products based on consumers' past purchase history. Thirdly, the application of digital technology has reshaped enterprise business processes and expanded business boundaries. This technological innovation also positively affects the innovation performance of enterprises, while enhancing their perception, absorption, and integration capabilities.

### E. Innovative Business Models

Firstly, by establishing a digital platform, enterprises can connect different user groups and achieve seamless value transfer. The platform can also collect a large amount of user data to help the platform make market predictions and trend analysis, providing investors with decision-making basis and more accurate resource allocation, thereby improving investment efficiency. Secondly, enterprises can establish a network of partners and a multi-faceted ecosystem to share resources, data, and technology, jointly develop new markets, accelerate the promotion of new products, reduce the risk of a

single enterprise, increase market influence, and enhance overall investment attractiveness.

In summary, through digital transformation, enterprises can improve their investment behavior and enhance their governance capabilities, while also improving the quality of internal control and alleviating information asymmetry issues. These findings are of great significance in guiding companies on how to utilize digital tools and strategies to optimize their investment decisions.

## V. RESEARCH CONCLUSION AND POLICY IMPLICATIONS

This study draws the following conclusions by analyzing the impact of digital transformation on investment efficiency of enterprises. Digitization has significantly improved the investment efficiency of enterprises. Digital transformation has brought significant economic benefits to enterprises through improving decision-making efficiency, optimizing resource allocation, reducing operating costs, and enhancing market competitiveness. In addition, innovative business models, increased information transparency, and reduced transaction costs further enhance the market positioning and investment attractiveness of enterprises.

The following insights can be drawn from the conclusions of this article:

For enterprises, firstly, actively integrating and implementing digital transformation, utilizing technologies such as big data, cloud computing, and artificial intelligence to optimize decision-making processes and business processes. Secondly, pay attention to policy and market trends, flexibly adjust corporate strategies, and fully utilize the opportunities brought by digitization. Thirdly, strengthen partnerships and ecosystem building, share resources and technologies, and accelerate the market promotion of new products.

For the government, firstly, it is necessary to formulate policies and measures that are conducive to the digital transformation of enterprises, such as financial and tax incentives, technical support, talent cultivation, etc. Secondly, strengthen the construction of digital infrastructure to provide hardware and network support for the development of enterprises. Thirdly, promote the research and innovation of digital technology, encourage cooperation between enterprises and research institutions, and accelerate the transformation and application of scientific and technological achievements.

For investors, firstly, by utilizing more advanced data analysis tools to analyze market changes and make more accurate investment decisions. Secondly, digital technology will become increasingly important in the future application of enterprises, which will become one of the important criteria for investors to evaluate the growth and investment efficiency of enterprises.

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