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Research on the Mechanism and Optimization Path of the Maturity Mismatch of Enterprise Investment and Financing from the Perspective of Digital Transformation

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Abstract

With the rapid progress of the digital economy, the digital transformation of enterprises has emerged as a crucial driving force for promoting the high - quality development of enterprises. By employing methods such as literature research, induction, and theoretical deduction, this paper examines the mechanism and optimization path of the maturity mismatch of enterprise investment and financing from the perspective of digital transformation. The research discovers that digital transformation can decrease the incidence of maturity mismatch in enterprise investment and financing. This is achieved through alleviating financing constraints, optimizing the term structure and financing path of enterprise investment and financing, and enhancing the credit structure of the enterprise. Finally, this paper presents several optimization paths, including strengthening the construction of digital infrastructure. The research in this paper not only contributes to a deeper comprehension of the relationship between digital transformation and the maturity mismatch of investment and financing but also offers a theoretical reference for enterprises to formulate investment and financing strategies within the digital transformation context.

Keywords

Digital Transformation; Maturity Mismatch Investment and Financing; Information Asymmetry; Financing Constraints.

1. Introduction

In the context of global economic integration and the rapid development of information technology, digital transformation has emerged as a key driving force for promoting enterprise innovation and strengthening core competitiveness. As emerging technologies such as artificial intelligence, big data, cloud computing, and blockchain continue to evolve, digital transformation is no longer confined to innovation at the technical level. Instead, it exerts a profound impact on numerous aspects of enterprise operations, including strategy formulation, organizational structure, operation models, and investment - financing decisions.

During this process, how enterprises can effectively capitalize on the opportunities presented by digital transformation and mitigate the problem of investment - financing term mismatch has become a topic that merits in - depth exploration.

The maturity mismatch of investment and financing represents a significant challenge within enterprise operations. It pertains to the mismatch in the duration of capital supply and demand. This kind of mismatch can not only cause tension in the capital chain of enterprises and thereby influence their operations but may also give rise to systemic risks in the financial market. In China, because of the imperfect financial market mechanism, financial institutions have relatively weak willingness to supply long - term credit. As a result, when enterprises encounter long - term investment requirements, they often have to rely on short - term debt financing.

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This situation consequently exacerbates the phenomenon of investment and financing maturity mismatch.

Nevertheless, digital transformation presents new outlooks and potential solutions for enterprises when confronting this challenge. On the one hand, digital transformation has the potential to enhance the information transparency of enterprises and alleviate the information asymmetry between enterprises and financial institutions. This, in turn, is conducive to strengthening the trust of financial institutions in enterprises and increasing their willingness to provide long - term credit. On the other hand, through optimizing the financial management and decision - making process of enterprises, digital transformation can also improve the forecasting ability and management efficiency of enterprises regarding capital flow. Consequently, enterprises can more effectively match the maturity of investment and financing and reduce financial risks.

This paper intends to conduct an in - depth exploration of the mechanism and optimization path of the maturity mismatch of enterprise investment and financing from the perspective of digital transformation. Through the comprehensive utilization of literature research, induction, and theoretical deduction, this paper discloses the manner in which digital transformation influences the investment and financing decision - making process of enterprises and presents a multi - dimensional optimization path. The research within this paper not only contributes to a deeper comprehension of the relationship between digital transformation and the maturity mismatch of enterprise investment and financing but also offers a theoretical reference for enterprises to formulate scientific and reasonable investment and financing strategies within the digital transformation context.

2. Theoretical Introduction

2.1. Digital Transformation

Enterprise digital transformation is based on enterprise digital conversion and digital upgrade. Through the utilization of digital technologies, it conducts comprehensive and systematic reforms and remodels on the enterprise's strategic system, business model, business process, production operation, and organizational structure [1]. This kind of transformation is not merely the application of technology but also the reconstruction of the enterprise's overall operation mode, including production management mode, value - creation mode, and organizational management mode, etc. [2]. During this process, enterprises need to integrate multiple digital technologies, such as cloud computing, big data, artificial intelligence, the Internet of Things, and blockchain, to drive business model innovation and the reconstruction of the business ecosystem.

The connotation of digital transformation primarily encompasses three levels, namely transformation, integration, and restructuring. Transformation implies the utilization of the new - generation ICT (information and communication technology) to modify the traditional business models of enterprises. Integration indicates the in - depth combination of digital technologies with an enterprise's core business, aiming to boost efficiency and foster innovation. Restructuring, on the other hand, refers to the redefinition of an enterprise's strategy and business model through the application of digital technologies.

In practice, enterprise digital transformation encompasses numerous aspects that require consideration. For instance, there are questions regarding how to evaluate the digital capabilities of the enterprise, how to formulate an effective transformation strategy, and how to guarantee data security and privacy protection throughout the transformation process. Consequently, when enterprises embark on digital transformation, they must comprehensively take these factors into account and develop the corresponding implementation path in accordance with their actual circumstances.

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2.2. The Maturity Mismatch of Investment and Financing

The maturity mismatch of investment and financing pertains to the incongruity between the duration of financing and that of investment during the financing and investment procedures. This phenomenon is rather prevalent in enterprise operations, particularly within China's financial market. More specifically, the maturity mismatch of investment and financing is typically exhibited as "short-term borrowing for long-term investment", meaning that enterprises finance long-term investments by means of short-term financing.

The maturity mismatch between investment and financing will heighten the liquidity risk faced by enterprises. It might even expose them to the peril of a capital chain rupture as a result of the concentrated maturity of short-term debts. In the event that a company fails to repay its short-term debt punctually, its credit rating will deteriorate, thereby further augmenting the company's financing costs. Meanwhile, due to the longer payback period of long-term investments, if a company is unable to generate sufficient cash flow to sustain its daily operations in the short term, it could lead to a decline in corporate performance.

3. The Impact Mechanism of Digital Transformation on the Maturity Mismatch of Enterprise Investment and Financing

3.1. Digital Transformation Alleviates Corporate Financing Constraints

Digital transformation mitigates the financing constraints of enterprises via a range of intricate and efficient mechanisms. By incorporating advanced information technology and management systems, digital transformation has significantly enhanced the information transparency of enterprises, rendering their internal operational data more distinct, precise, and accessible [6]. This not only contributes to improving the efficiency of resource allocation within enterprises but also substantially alleviates the issue of information asymmetry with external investors and financial institutions. The reduction of information asymmetry directly results in a decrease in agency costs, bolsters the trust of external investors in enterprises, and enables enterprises to obtain external financing support more effortlessly [7].

Digital transformation not only enhances the operational efficiency [8] of enterprises but also elevates their overall profitability and risk management level [9] by means of intelligent and automated approaches. Enterprises are able to utilize big data, artificial intelligence, and other technologies to precisely forecast market demand, formulate more scientific and reasonable business strategies, and effectively avert potential risks. The enhancement of such capabilities directly diminishes the financing risk cost of enterprises, causing financial institutions to hold a more favorable view of the credit ratings of enterprises and be more inclined to offer loan support when evaluating loan risks.

Digital transformation can enhance performance levels by diminishing the information asymmetry that exists between enterprises and external investors as well as financial institutions. It assists enterprises in reducing financing costs, elevating credit ratings, and alleviating financing constraints. The alleviation of these financing constraints has, to a great extent, prevented the occurrence of the maturity mismatch of investment and financing.

3.2. Digital Transformation Optimizes the Term Structure of Enterprise Investment and Financing

Digital transformation can contribute to alleviating the financing constraints of enterprises by enhancing the information transparency within enterprises and reducing the level of information asymmetry. This, in turn, optimizes the term structure of enterprises' investment and financing. More specifically, digital transformation can boost the market's positive expectations of enterprises and increase the inclination of financial institutions to provide long

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- term credit. Consequently, the phenomenon [10] of enterprises depending on short - term loans for long - term investment is reduced.

On the other hand, the in - depth progress of digital transformation has vigorously driven the innovation and prosperity of digital finance. Moreover, the development of digital finance also exerts a positive influence on the maturity mismatch of enterprise investment and financing. Research has indicated that digital finance can effectively restrain enterprises' behavior of "short - term borrowing for long - term investment" by alleviating the financing constraints on enterprises' access to long - term funds and enhancing the quality of information disclosure [11]. Additionally, the development of digital finance also expands the financing channels of enterprises and decreases the difficulty and cost of financing, thereby assisting enterprises in better matching the term [12] of investment and financing.

3.3. Digital Transformation Improves Enterprises' Credit Structure

Digital transformation is capable of enhancing banks' capacity to collect and process information regarding loan customers. Through big - data risk control, it can effectively reduce potential moral hazards during the corporate lending process, thereby improving the quality and efficiency of credit business [13]. Furthermore, digital transformation can also adjust the loan credit structure of banks. It can increase the proportion of credit loans and decrease the reliance on guaranteed loans, which is conducive to optimizing the allocation [14] of credit resources and alleviating the issue of the maturity mismatch of enterprise investment and financing.

Furthermore, digital transformation drives the digital transformation of credit services. By integrating the internal and external data of banks, it enables the construction of scenarios including credit risk prevention and control, industrial policy support, and product - service innovation, thereby enhancing the user experience. This transformation can not only assist in alleviating the financing constraints of enterprises but also improve financial performance, enhance the efficiency of capital utilization, and enable enterprises to obtain more long - term financial support. Consequently, this reduces the reliance on short - term loans and mitigates the maturity mismatch of investment and financing [13].

3.4. Digital Transformation Optimizes the Financing Path of Enterprises

Digital finance and supply - chain finance, as the vanguards of digital transformation, are guiding the financial industry towards a new era characterized by intelligence and efficiency. Digital finance offers diverse financing alternatives via Internet platforms, which lessens the financing challenges faced by enterprises, alleviates the issue of information asymmetry, and empowers enterprises to acquire funds in a more flexible manner [12]. For instance, peer - to - peer lending, as a financial model without intermediaries, depends on the availability of data within the big - data context, thereby creating new financing channels for small and medium - sized enterprises. Through the integration of logistics, capital flow, and information flow, the digital transformation of supply - chain finance constructs a financial supply system that connects core enterprises with those upstream and downstream, thus enhancing supply - chain efficiency. Digital supply - chain finance utilizes big - data and blockchain technology to provide online, credit - based, fast, and low - cost financing services to suppliers within the industrial chain, reducing financing costs [18]. This model not only resolves the capital - turnover issue in the traditional supply chain but also improves the efficiency of capital utilization.

Simultaneously, digital transformation has optimized financing pathways through big - data analysis and artificial - intelligence technology. These technologies can excavate and analyze vast amounts of data to accurately evaluate a company's credit level, thereby reducing the information - search costs and risk - management costs [17] for both lenders and borrowers. Moreover, digital transformation also enhances the quality of information disclosure and

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decreases the costs of pre - loan review and post - loan supervision, thus reducing the financing costs of enterprises and alleviating the maturity mismatch of enterprise investment and financing. By leveraging digital finance, supply - chain finance, big - data analysis, and artificial - intelligence technology, enterprises can optimize their financing paths, relieve capital - turnover problems, significantly reduce financing costs, and consequently reduce the occurrence of investment - financing term mismatch.

4. The Optimization Path of the Maturity Mismatch of Investment and Financing from the Perspective of Digital Transformation

4.1. Strengthen Digital Infrastructure Construction

The construction of digital infrastructure can enhance the availability of long - term credit for enterprises. Thereby, it can fill the long - term funding gap and mitigate the behavior of "using short - term debt to finance long - term activities". Enterprises ought to increase their investment in new technologies like cloud computing and big data and utilize hybrid cloud architecture to support future digital integration facilities. Concurrently, the government should expand the implementation scope of the "Broadband China" strategy and promote the application of digital technology in the financial field. This will improve the information - acquisition and - processing capabilities of financial institutions, thus reducing their motivation for "cautious lending" regarding long - term debt [16].

4.2. Strengthen Data Analysis Capabilities

In the investment and financing domain, the application of big data technology can remarkably enhance the efficiency and precision of investment decisions. Via big data technology, investment institutions can swiftly gather, organize, and analyze vast amounts of data. Consequently, they can evaluate the value of potential investment opportunities more accurately and reduce investment risks. The application of big data analysis in investment and financing decisions has emerged as a trend, which holds great significance for the future development and profitability of enterprises. Hence, the importance of utilizing big data technology to improve data analysis capabilities has become increasingly conspicuous.

To enhance the ability of data analysis, enterprises are required to commence from multiple aspects. Firstly, corporations should establish a data - driven culture which motivates employees to think and innovate with data. Secondly, enterprises ought to increase investment in data technology and introduce advanced tools for data storage, processing and analysis. Thirdly, enterprises also need to reinforce data governance to guarantee the quality and compliance of data.

4.3. Optimize Organizational Structure and Processes

Digital transformation compels enterprises to adjust their organizational structures so as to adapt to the new management models and technological environments. Conventional organizational forms typically struggle to meet the requirements of the digital era. Consequently, it is essential to undertake institutional and mechanism innovations, optimize organizational structures and functions, and establish digital management organizations, systems, processes, and norms. For instance, by dismantling departmental barriers and implementing agile management, better cross-departmental collaboration can be achieved, thereby enhancing the overall operational efficiency [19].

Furthermore, the redesign and enhancement of a company's internal processes have the potential to boost efficiency, curtail costs, and accelerate the decision-making process. For instance, Business Process Reengineering (BPR), being a comprehensive and thorough approach to process redesign, can markedly enhance the efficiency of business operations, cut

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down costs, and elevate customer satisfaction. The application of technologies like automation and artificial intelligence can diminish manual operations and thereby reduce production time and labor costs [20]. Through the optimization of enterprise capital management and resource allocation, the aforementioned methods can effectively mitigate the issue [21] of the mismatch between investment and financing terms. This not only assists enterprises in better handling the pressure of debt repayment but also enhances their financial stability and capacity for sustainable development.

4.4. Improve the Policy and Supervision System

In order to relieve the maturity mismatch of enterprise investment and financing, the government and relevant institutions can implement diverse policy measures to back digital transformation and enterprise development and optimize the regulatory environment.

Firstly, the government can propel the digital transformation of small and medium-sized enterprises (SMEs) with financial assistance. For instance, the circular jointly released by the Ministry of Industry and Information Technology and the Ministry of Finance referred to the pilot work of providing financial support for the digital transformation of SMEs, with the intention of facilitating the digital transformation of SMEs by means of technological, capital, service, and talent support.

Secondly, since the term of bank loans for enterprises is predominantly determined by banks, enterprises' financing depends overly on short-term loans [22]. Consequently, the government can prompt banks to augment the allocation of medium and long-term loans through policy guidance, thereby fulfilling the capital requirements of enterprises for long-term investment.

Finally, the government should actively direct and support the diversified development of institutional investors to enhance the response speed of the market [23] and relieve the capital demands of enterprises [24]. For example, as stated in the Financial Commission meeting, long-term institutional investors are encouraged to increase their shareholdings, and institutions such as trust and insurance companies should be guided to foster long-term investment concepts.

5. Conclusion

As a significant impetus for driving economic growth and industrial upgrading, the digital transformation of enterprises represents not merely an innovation of the traditional business model but also a comprehensive reconstruction of the enterprise's strategic system, business model, business process, production operation, and organizational structure. This intricate and multi-faceted process hinges on the digital transformation and digital upgrading of enterprises. Through the utilization of digital technology, the overall business model of enterprises has been profoundly transformed. Meanwhile, the maturity mismatch of investment and financing, which is a prevalent issue in business operations, has been afflicting numerous enterprises.

Through conducting research, this paper discovers that digital transformation can assist enterprises in alleviating the problem of the mismatch between investment and financing terms mainly via four mechanisms. Firstly, digital transformation remarkably enhances the transparency of enterprise information, allowing both internal and external stakeholders to evaluate the operating status and financial health of enterprises more precisely. This, in turn, mitigates information asymmetry and paves a solid path for relieving financing constraints.

Secondly, digital transformation drives the overall optimization of operational efficiency, involving aspects such as the automation of the production process and intelligent supply chain management. These enhancements not only reduce the capital turnover cycle but also boost the overall profitability of enterprises. Consequently, they further strengthen the enterprises'

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debt repayment capabilities and contribute to optimizing the term structure of investment and financing.

Thirdly, by leveraging advanced data analysis technology, enterprises are able to identify, evaluate, and manage various risks more effectively. This offers a robust safeguard for enterprises to progress steadily within the complex and ever-changing financial environment. It also helps to improve the credit structure and lower the financing cost.

Fourthly, digital transformation has unlocked a broader spectrum of financing channels and approaches for enterprises. By means of constructing online financing platforms, applying technologies like blockchain to achieve asset securitization and other methods, the financing pathways have been widened, thereby augmenting the financing flexibility and accessibility of enterprises.

In light of how to further mitigate the mismatch of investment and financing periods within the context of digital transformation, this paper presents several optimization pathways. First, intensify the construction of digital infrastructure, which encompasses upgrading IT systems and constructing big data platforms, in order to support higher - level data analysis and decision - making support. Second, enhance the capacity for data analysis to guarantee that enterprises can fully utilize data resources to achieve precise management and decision - making. The third is to optimize the organizational structure and processes, promote the flattening of organizations and the acceleration of decision-making, so as to meet the requirements of efficient operations brought about by digital transformation. Fourth, improve the policy and regulatory system. The government and regulatory authorities should introduce more policies and measures to encourage enterprises' digital transformation and establish a sound regulatory framework to ensure data security and legitimate rights and interests during the digital transformation process.

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