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Coping Strategies for Financing Constraints of Small and Medium-sized Enterprises (SMEs) under Financial Intelligence Transformation

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Abstract: With the development and progress of technological advancements, businesses are increasingly realizing that the transformation towards financial intelligence is a prevailing trend. In comparison to traditional finance, financial intelligence exhibits various changes and characteristics. This paper analyzes the issues surrounding the financing of small and medium-sized enterprises (SMEs), along with the current status and reasons for financing constraints. It combines the structure, path, and contribution of financial intelligence transformation to examine its impact on the reasons for financing constraints. Subsequently, considering the diverse influences, this paper proposes six relevant coping strategies tailored to address different issues related to financing constraints for SMEs. The research, rooted in the perspective of financial intelligence transformation, explores how SMEs can make more optimized choices when facing challenges of financing constraints in the new era.

Keywords: Small and Medium-sized Enterprises (SMEs), Financial Intelligence Transformation, Financing Constraints

1. Introduction

According to statistics reported by Sina Finance, small and medium-sized enterprises (SMEs) in China possess distinctive characteristics, contributing over 50% of tax revenue, more than 60% of GDP, over 70% of technological innovation, 80% of urban labor employment, and account for over 90% of total enterprises. Therefore, SMEs play a crucial role in China's economic development. However, despite their significant contributions, SMEs face persistent challenges in financing, hindering their growth. As early as 2013, the International Monetary Fund identified funding as the most significant constraint for SMEs' development in medium-income economies and the second-largest constraint in low-income economies. Economic development relies on SMEs as the main drivers, making financing constraints a pivotal factor in hindering their growth. Consequently, addressing the issue of financing constraints for SMEs has been a topic of considerable attention.

In 1958, Modigliani and Miller proposed the MM theory, asserting that, in a perfect capital market, investment decisions and capital structure are irrelevant. However, in reality, with the absence of a perfect capital market, the asymmetry of information and the emergence of agency costs create a gap between the costs of external and internal financing. Factors influencing financing constraints can be

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categorized as internal and external. External factors include regional financial development, national monetary policy, external information effects, political and financial associations, industry competition, and foreign direct investment (FDI). Internal factors encompass company ownership nature, enterprise type, corporate tax reform, business credit, and internal controls. Changes in these influencing factors may exacerbate or alleviate the impact of financing constraints on enterprises. Compared to private and state-owned enterprises, SMEs are more sensitive and greatly affected by financing constraints, making the study of coping strategies for SMEs' financing constraints more practical and representative.

With the development of economic globalization, domestic demand decline, overcapacity, and challenges such as rising costs, inefficiency, intensified competition, and insufficient momentum confront enterprises. Simultaneously, the flourishing development of new technologies such as big data, artificial intelligence, cloud computing, the Internet of Things, and blockchain has brought both challenges and technological advancements. The idea of solving challenges with technology emerged, urging enterprises to undergo financial transformation. In this context, the financial shared services model has entered a rapid development stage, transforming rapidly along the lines of computerization, informatization, and intelligence, leading financial work into the era of intelligence. Strategic finance, business finance, and shared financial functions based on the financial shared services model bring positive effects to enterprises, such as cost reduction, service quality improvement, efficiency enhancement, and strengthened risk control, alleviating the challenges faced by enterprises. With the rapid advancement of intelligent technology, new application scenarios and development directions have emerged, and functions such as strategic finance, business finance, and shared finance have gained more opportunities under the influence of intelligent technology. The specific manifestations of financial intelligence are the construction of the financial intelligence transformation system architecture and the analysis of the process of the financial intelligence transformation path.

This study focuses on the scenario model of SMEs' financing constraints under the background of financial intelligence transformation, providing a series of discussions with practical significance. We explore new theoretical dimensions in coping with SMEs' financing constraints in the context of financial intelligence transformation in the new era. How will changes in the financial background affect financing constraints, and how should SMEs respond? By analyzing the construction of the financial intelligence transformation system architecture and the path of financial intelligence transformation, this paper determines the changes in influencing factors inside and outside financing constraints, thereby proposing coping strategies for SMEs.

2. Literature Review

2.1. Formation Process of Financing Constraints for Small and Medium-sized Enterprises (SMEs)

External financing for small and medium-sized enterprises (SMEs) typically includes equity financing, debt financing, and credit financing. Among these, equity financing has a high threshold, and debt financing demands strict requirements. Therefore, SMEs face significant difficulties in obtaining direct financing, leading to the prevalent preference for credit financing among the majority of SMEs currently [1]. Due to issues such as information asymmetry and varied business credit ratings for small and medium-sized enterprises, commercial banks often raise credit thresholds to mitigate risks. Consequently, for SMEs with a strong need for funds, they are more willing to accept higher credit interest rates or additional terms. However, some SMEs that find it challenging to bear the high costs of financing may choose to forgo financing and exit the credit market. Simultaneously, most SMEs are in their initial stages, possessing limited assets, small scales, and weak risk resistance. With fewer assets available for collateral, it becomes challenging for SMEs to secure loans from commercial banks [2]. This situation contributes to the phenomenon of financing constraints for SMEs, as they encounter difficulties in obtaining loans due to their limited capacity to provide collateral.

2.2. Factors Influencing Financing Constraints and Economic Consequences

Scholars Tang Xiumei and Sun Yaxuan [3, 4] both contend that financing constraints for small and medium-sized enterprises (SMEs) are influenced by various factors, broadly categorized as internal and external. From a macro perspective, external factors primarily include the level of regional financial development, national monetary policy [5], the impact of external information [6], political and financial associations [7], industry competition, and the input of Foreign Direct Investment (FDI) [8]. Analyzing from the perspective of SMEs, internal factors mainly consist of company ownership nature [9], enterprise type [10], corporate tax reform [11], business credit, and internal control.

Influenced by both upstream and downstream factors, SMEs experience financing constraints. The phenomenon of financing constraints for SMEs further affects their tangible economy and research and development (R&D) investment [12]. Financing constraints significantly impact the tangible economy of enterprises: the inability to expand production capacity due to financing constraints results in an uneconomical state of production scale. Moreover, financing constraints hinder enterprises from vigorously improving management efficiency, leading to an uneconomical state in terms of management. Simultaneously, the stable long-term development of enterprises relies on R&D investment. When facing financing constraints, internal cash flow constrains R&D investment, and the intensity of external financing constraints significantly reduces.

2.3. Literature Related to Financial Intelligence Transformation

According to Yang Yin et al. [13], financial intelligence transformation encompasses the business process, financial accounting process, and management accounting process. Financial intelligence transformation involves the intelligent processing of various economic transactions based on resources, events, entities, and values. It leverages intelligent technologies such as big data, artificial intelligence, business intelligence, and data mining to output multidimensional information [14]. The ultimate goal is to meet the needs of both internal and external decision-makers in the enterprise [15]. In other words, the transformation involves integrating the business activities of financial accounting and the management activities of management accounting, constituting a systematic engineering effort [16]. The work of the financial department in an enterprise not only originates from the business layer but also provides timely feedback to the business layer. The financial department offers business data and financial data to the enterprise's management, supporting intelligent decision analysis. The management, in turn, provides operational and managerial decisions for both the business and financial layers.

2.4. Literature Review

This section focuses on the critical reviews of the relevant literature, specifically addressing issues related to financing constraints for small and medium-sized enterprises (SMEs) under the backdrop of financial intelligence transformation. The following key points are highlighted. Firstly, SMEs serve as the driving force for national economic and social development, playing a vital role in expanding employment, improving livelihoods, and promoting entrepreneurship and innovation. They are crucial in maintaining economic growth, driving reforms, adjusting structures, benefiting the people, and preventing risks. Over the past decade, China's SMEs have achieved remarkable success, becoming a powerhouse for the country's economic development. Secondly, SMEs face challenges due to limited internal funds and difficulties in accessing diverse financing options. Compared to

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large enterprises, SMEs have weaker capital strength and lower credit ratings, making it difficult for them to secure financing through traditional banking channels. Among various factors limiting the development of SMEs, financing constraints stand out as a primary obstacle [17]. Therefore, alleviating financing constraints has consistently been a focal point for SMEs. Lastly, under the backdrop of financial intelligence transformation, leveraging this transformation effectively becomes crucial. Through an analysis of the financial intelligence transformation system architecture and path, interventions and adjustments can be made to the influencing factors of financing constraints. This approach aims to mitigate the effects of financing constraints, exploring innovative strategies to address the financing challenges faced by SMEs in the new era.

3. Current Situation of Financing Constraints on Small and Medium-sized Enterprises (SMEs) in China

Throughout history, the development of SMEs has played an irreplaceable role in promoting overall economic growth in China. Compared to large enterprises, SMEs have a more flexible business model, lower startup and production costs, and easier market entry, exit, or transfer. As a result, SMEs are better suited to adapt to the constantly changing market and evolving consumer demands. However, the development of SMEs is influenced by various factors and conditions.

The persistent challenges of "difficulty in obtaining financing and high financing costs" have hindered the efficient development of SMEs, impeding their transformation and upgrading. Despite the increasing scale of loans to SMEs, it is suggested that the loan scale should be 1.5 to 2.3 times higher relative to their contributions.

According to data released by the China Banking and Insurance Regulatory Commission, the balance of loans to SMEs in China's banking financial institutions in 2022 was 59.7 trillion yuan. Although the total loan scale increased by nearly 19.4% compared to the previous year, the average loan balance for individual SMEs has been in a declining trend for five consecutive years.

The stability of the financial system is a key focus of China's economic efforts, and commercial banks' considerations regarding the security of loan funds are closely related to the stability of the financial system. Based on the theory of information asymmetry, SMEs are more prone to adverse selection and moral hazard issues, leading to a decrease in the non-performing loan ratio and the security of funds for banks.

4. Financial Constraints on Small and Medium-sized Enterprises (SMEs) in the Background of Financial Intelligence Transformation

4.1. Financing Constraints Faced by SMEs in China

Small and medium-sized enterprises (SMEs) in China encounter issues of unreasonable financing structures, a singular financing approach, and difficulties in obtaining financing. Approximately 50%-60% of the funds for SMEs come from internal sources, with around 20% sourced from bank loans. In contrast, funds derived from financing options such as corporate bonds and external equity constitute only about 1%. Notably, the success rate of bank loan applications for SMEs is significantly lower than that for large enterprises.

The cost of bank financing for SMEs is high. Commercial banks typically exhibit skepticism towards the financial conditions, management systems, and operational cash flows of SMEs. This lack of trust contributes to difficulties in communication and a lower level of confidence in the repayment capacity of SMEs. Additionally, the risk control mechanisms of commercial banks result in elevated collateral requirements. Even if a bank approves a loan for SMEs, the bank may raise the loan interest rates to balance the lending risk for SMEs, thereby increasing the overall cost of financing for SMEs.

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4.2. Reasons for Financing Constraints on SMEs in China

4.2.1. Fierce Competition and Unstable Financial Structure

SMEs face intense competition, leading to unstable operational and profit capabilities, resulting in weak survival abilities and narrow financing channels. The reliance on commercial banks or private lending methods for financing often incurs high capital costs, contributing to an irrational financing structure and increased burdens for profit-unstable SMEs.

4.2.2. Information Asymmetry

SMEs exhibit incomplete operational data, increasing the information acquisition costs for commercial banks. Traditional credit rating agencies or banks find it challenging to objectively assess the true operational status of SMEs through specific financial indicators, making it difficult to judge their repayment capacity. Consequently, banks may raise loan interest rates to compensate for potential investment risks, resulting in excessively high costs for SMEs financing indirectly through traditional commercial banks.

4.2.3. Difficulties in Tracking Repayment

Banks face challenges in tracking the real financial situation of SMEs during the loan recovery process, making it difficult to determine the timely and secure return of funds. Investors are more concerned with the timely and quality repayment of loans, rather than whether SMEs possess labels such as high-tech, new energy, or environmental friendliness. As a result, investors raise interest rates to mitigate risks, leading to an increase in the financing costs for SMEs.

4.2.4. Lack of National Policy Support

China's financing guarantee system is incomplete, relying on financial institutions such as commercial banks for financing. To secure credit loans, enterprises must first have stable profitability or government guarantees. SMEs lacking government guarantees can only apply for limited credit loan amounts, leading to greater reliance on mortgage loans for financing.

4.2.5. Insufficient Collateral Assets

If the business prospects of an enterprise are unclear, it needs to provide collateral to the bank for mortgage loans. However, SMEs often lack sufficient collateral assets. Traditional collateral guarantee systems in China primarily involve land and real estate, assets that SMEs lack. When SMEs struggle with poor management and are unable to repay based on their profitability, the collateral cannot cover the loan repayment responsibility, resulting in excessively high financing costs.

4.2.6. Weak Credit Awareness

Managers or decision-makers in SMEs generally lack overall qualifications and good credit awareness, leading to a poor reputation. Additionally, during the initial stages of SMEs, there is a tendency to blindly increase the debt ratio, creating an irrational financing structure and eventually causing a situation where liabilities exceed assets. Compared to large enterprises, SMEs have weaker capital strength and lower credit ratings, making it challenging for them to secure financing through banks.

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5. Strategies for Addressing Financing Constraints on Small and Medium-sized Enterprises (SMEs) in the Context of Financial Intelligence Transformation

Strengthening Core Competitiveness through Intelligent Service Sharing Platforms: To gain a competitive advantage in the intense market competition, SMEs must possess strong core competitiveness in their products or services. Establishing an intelligent service-sharing platform enhances information communication efficiency through blockchain technology, reducing internal and external communication costs. This, in turn, elevates the overall competitiveness of SMEs in the competitive landscape.

Enhancing Internal Information Quality through Data and System Integration: Financial intelligence transformation involves integrating enterprise data and systems, ensuring timely and standardized internal communication. Improved internal information within SMEs enhances the reliability of the social credit system, facilitating seamless information exchange among lending institutions, third-party payment providers, and government entities. This reduction in information asymmetry fosters trust among stakeholders, aiding in lowering loan interest rates and overall financing costs.

Increasing Transparency in Fund Utilization through Process Automation: The automation and standardization of processes under financial intelligence transformation provide a clear flow of funds, allowing lending institutions certain permissions for direct access to SMEs' information systems. This reduces information investigation costs, enables real-time tracking of fund flows, and monitors the repayment process. Consequently, this decreases the financing costs for SMEs, assisting them in obtaining the necessary funds and addressing financing constraints.

Optimizing Financial Management Systems to Improve Business Stability: The transformation to financial intelligence involves upgrading intelligent technology applications in finance, leading to changes in financial risk points and priorities. Existing systems in SMEs may not adapt to the post-transformation financial workflow, necessitating the formulation of rational and applicable financial management systems. This enhances SMEs' stability by making risks controllable, processes traceable, and operations legal and compliant, thereby minimizing potential losses and maximizing profits.

Clarifying Asset Data through Data Platforms: In the backdrop of financial intelligence transformation, establishing data platforms enables SMEs to unify and manage business, financial, tax, and management data using intelligent technologies. This unified processing of data supports intelligent analysis and decision-making. Clear documentation and presentation of data related to various assets contribute to the establishment of a unified registration system for movable and property rights. This, in turn, enhances the availability of financing for SMEs by utilizing inventory, intangible assets, and other assets in their financing.

Improving Credit Environment through Business Standardization: Business standardization under financial intelligence transformation increases operational efficiency and reduces business risks by generating various data according to standardized processes in different transactions and business scenarios. This standardization decreases error rates and strengthens the credit system for SMEs, ultimately lowering credit risks for lending institutions. This, in turn, reduces the cost for institutions providing financing services to SMEs.

6. Conclusion

This paper, based on research on the formation process, influencing factors, and economic consequences of financing constraints, combined with the current situation of "difficulty and high cost of financing" for small and medium-sized enterprises (SMEs), puts forth two issues regarding SME financing: the irrational structure of financing and the high cost of financing. Through problem

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analysis, six reasons leading to these issues are identified. Addressing these six reasons within the context of financial intelligence transformation, six corresponding solutions are proposed: Firstly, strengthening Core Competitiveness through Intelligent Service Sharing Platforms: This can ameliorate the intense competition landscape. Secondly, enhancing Internal Information Quality through Data and System Integration: This reduces financing constraints arising from information asymmetry. Thirdly, increasing Transparency in Fund Utilization through Process Automation: This raises the possibility of precise supervision of the repayment process. Fourthly, optimizing Financial Management Systems to Improve Business Stability: This internally improves the business environment, aligning with policies. Fifthly, Clarifying Asset Data through Data Platforms: This lays the foundation for chattel mortgages by defining asset data. Lastly, improving Credit Environment through Business Standardization: This enhances the reputation of SMEs by standardizing business processes.

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