

Digital Inclusive Finance and SME Development

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Abstract: Due to cost and information asymmetry, traditional finance always ignores the development needs of middle and small-sized enterprises (SMEs), which impedes their development. By comparison, digital financial inclusion enhances the accessibility and convenience of financial services through digital technology. Recently, under the background that aims to promote the integration between the digital and the real economy, whether SMEs can use its development to achieve high-quality development is of great significance in the modern economy. This paper focuses on digital inclusive finance has several benefits within SME development, including improving the efficiency of SMEs' financial activities, facilitating SMEs' transformation and upgrading, and promoting SMEs' scientific and technological innovation. But the development of this kind of financial model is facing some impediments, such as financial risk, the excessive scale of investment, and the difficulty of digital transformation. In the future, we need to find a balance between risk control and service expansion to promote the development of SMEs better and accomplish sustainable economic development.


1 INTRODUCTION

Under the traditional financial market, the financial service target is mainly large enterprises, while middle and small-sized enterprises (SMEs) are ignored. The fundamental reason is that traditional finance requires a lot of labor costs for company endorsements. Secondly, because of problems such as the financial system, imperfect corporate structure, and inadequate information disclosure, financial institutions and commercial banks have insufficient information collection for SMEs, thus leading to unclear financial risks. Therefore, the vast majority of financial institutions and commercial banks feel powerless when providing financial services for SMEs. In addition, financial institutions pay little attention to SMEs, which is partly attributed to various uncontrollable factors in the market, making private enterprises keep a distance from financial services, or even blindly avoid them. Against this background, the convenience of financial development has had little impact on private enterprises, resulting in the majority of SMEs' business models or borrowing scale being in the old era or the old mode. At present, as private enterprise is China's main economic support, this

situation will hinder economic development to some extent. Therefore, promoting the growth of inclusive digital finance is crucial.

The continuous progress of digital technology has brought new possibilities to the financial industry. The concept and practice of digital inclusive finance have been produced by the constant growth of fintech and other related fields. Digital inclusive finance aims to establish a data-driven risk control system by leveraging digital technologies. This approach not only expands financial inclusion but also strengthens its impact on entrepreneurship, income growth, and income distribution, while enhancing the accessibility and convenience of financial services. Additionally, digital inclusive finance promotes information sharing, which decreases the expenses associated with financial transactions, aids high-quality SMEs in securing appropriate financing, and helps business leaders formulate sound investment strategies. Consequently, the sustainable development of modern China's economy is largely influenced by digital inclusive finance.

Currently, studies of digital inclusive finance and its impact on enterprise development have garnered significant attention from scholars, with a focus on

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how it influences efficient investment and alleviates economic financing challenges. For instance, Teng and colleagues have emphasized that digital inclusive finance promotes the efficient growth of financial activities among SMEs, a point that has been thoroughly summarized and reviewed in existing literature (Teng, 2020). In addition, Zhang and other researchers have highlighted the positive role in enhancing the technological innovation capacity of SMEs (Zhang, 2023). Li and his team have explored how digital inclusive finance contributes to the transformation and upgrading of enterprises (Li, 2023). So far, Many existing related research results and literature can enhance our understanding. However, there remains a lack of consensus among scholars on key issues such as its concepts, causes, and consequences. This divergence stems from differences in theoretical perspectives, research contexts, and the timeliness of the studies, leaving some general issues unresolved.

Most of the existing studies on the impact of digital financial finance on SMEs focus on a specific aspect and lack a comprehensive literature review. Besides, the development time of this field is relatively short, and the relevant research is still not systematic enough. To address these issues, this paper aims to offer a thorough summary of the current literature on how inclusive digital finance influences SMEs. By identifying existing research gaps and outlining future prospects, the paper seeks to guide and support scholars in advancing their studies and developing a more cohesive understanding of this evolving area.

2 THE IMPACT OF DIGITAL INCLUSIVE FINANCING ON SMES

Many scholars have investigated the influence of digital inclusive financing on SMEs, particularly in terms of financing, risk management, market expansion, and technological innovation. This paper will discuss three aspects of corporate financial activities, technological innovation, transformation, and upgrading development of digital inclusive finance.

2.1 The Impact of Digital Financial Inclusion on Corporate Financial Activities

As for the impact of digital inclusive finance on corporate financial activities, this paper mainly

discusses two aspects improving investment efficiency and alleviating financing constraints. Digital inclusive finance helps SMEs make effective investments in digital technology, significantly enhances the availability of finance to SMEs, and in turn fuels business development.

2.1.1 Digital Finance Promotes the Investment Efficiency of SMEs

Digital finance helps SMEs allocate funds reasonably to some extent, thereby improving enterprise investment efficiency. According to relevant literature, Peng et al. concluded that its development is significant in improving the investment efficiency of enterprises, whether for enterprises with excessive or underinvestment. The reasons behind this may be multiple. First, the digital economy facilitates the digital transformation of enterprises to realize automation and intelligence faster, reduce transaction costs, improve operational efficiency, and thus improve investment performance. Second, Its development provides management with more diverse and real-time information, which reduces the uncertainty and risk in the investment. This helps enterprises make more accurate and objective investment decisions, avoid inefficient investment behavior caused by opportunistic motivation, and thus significantly enhance the investment efficiency of enterprises (Peng, 2022). In addition, from the perspective of corporate financing, Li Liang et al. found that digital finance can help SMEs find and choose the appropriate volume of financing investment strategies, to make effective investments and increase the return on corporate financial activities (Li, 2024).

2.1.2 Mechanisms for Digital Financial Inclusion to Alleviate Financing Constraints

In the traditional economy, insufficient information collection about SMEs leads to reduced trust in commercial banks, impeding corporate finance. Digital inclusive finance has emerged as a significant solution to this challenge, as noted by Teng. This modern approach alleviates the financing constraints faced by SMEs through two primary mechanisms. First, the risk mechanism enables digital financial platforms to assess the financial risks of SMEs with greater precision using big data and artificial intelligence technologies. Second, the credit mechanism allows SMEs to establish and accumulate their own credit assets in the credit market formed by digital technologies, thereby improving their

trustworthiness with commercial banks (Bu, 2024). Moreover, its impact on reducing SMEs' financing constraints is not uniform but rather exhibits heterogeneous characteristics. Digital financial platforms correct mismatches in attributes, domains, and regions within conventional financial lending services, allowing SMEs to secure loans more quickly and accurately, which in turn enhances the availability of enterprise financing (Bu, 2024). Second, digital technologies have created credit markets that enable SMEs to build and accumulate credit assets, making it easier for them to raise finance. Research by Lu et al., which analyzed panel data on Chinese SMEs from 2007 to 2017, underscores that digital finance represents a transformative shift in the lending environment, yielding substantial benefits for businesses (Lu, 2022). Digital trading platforms, for instance, simplify the loan application and approval processes for enterprises. Furthermore, in a digital inclusive financial environment, regional challenges between banks and SMEs can be effectively addressed, significantly reducing information asymmetry and lowering the operational costs for banks. This presents enterprises with the chance to acquire more targeted financial products and services. Therefore, Digital inclusive finance provides a beneficial and major impact in decreasing SMEs' financing constraints, therefore improving the availability of financing for SMEs. These findings align with the conclusions of Chauvet and Jacolin that financial inclusion can enable SMEs to break through the “financing gap” and that SMEs may have greater chances to obtain financial support in a more inclusive financial environment (Chauvet, 2017).

Financial institutions utilize digital technology to accurately assess enterprises' financial situation, operational capacity, and credit level so that financial resources can flow more efficiently to enterprises with development potential and investment value. It promotes the rational flow of funds between different enterprises and projects, improves the efficiency of capital utilization, and avoids idle or wasted funds.

2.2 The Role of Digital Inclusive Finance on Enterprise Technological Innovation

SMEs have a simple organizational structure and a flexible mode of operation, so they are more adaptable and sensitive to the changing market. In the present competitive market, the small scale of SMEs leads them to be easily abandoned and eliminated by the market. Therefore, this encourages SMEs to generate new ideas and thoughts on the current

technology to gain a foothold in the competitive market with less cost. According to China's relevant patent survey report, SMEs completed more than 60% of the patents, which shows that promoting technological innovation in SMEs has become an immediate priority. Secondly, some studies show that Chinese enterprises' patent exports account for a relatively low percentage, the competitiveness of domestic enterprises' patents in the international arena is on the low side, and at present, SMEs' patented technologies are imported more but exported less. This report shows that the current domestic scientific and technological innovation environment is severe, and the “gold content” of domestic enterprises' “going out” patents still needs to be improved. The significance of promoting the technological development of SMEs is further highlighted. According to relevant data, the lack of capital is one of the main difficulties and obstacles for SMEs to innovate in science and technology.

Hansen and Birkinshaw's research paper proposes the innovation value chain as a new staged framework for assessing innovation performance (Hansen, 2007). Developing a new patent consists of three main stages: idea generation, idea transformation, and idea dissemination. The study by Qi Hongqian et al. goes into more detail about the shortcomings as well as drawbacks of SMEs in the innovation chain. The weakness of SMEs in the two levels of creative transformation and creative dissemination has led to different degrees of interruptions and resource mismatches in the implementation of the innovation value chain by Chinese SMEs, which has resulted in the uneven quality of China's innovative products and even their indiscriminate use (Qi, 2023). For SMEs, innovation was a necessary factor for their sustainable development.

In this context, introducing scientific and technological talent and adequate funding are key factors, and digital inclusive finance is crucial in this regard. The growth of digital financial inclusion has increased the availability of financial support for SMEs. Its online advantages enable financial institutions to have rich collection capabilities. It means that the geographic barriers of traditional finance are broken down by digital financial inclusion, which will bring the marginal cost of financial institutions as well as commercial banks close to zero. With low survey costs, commercial banks can reach out more to SMEs to learn more about more creative and valuable technology ideas and dispel the crisis of confidence.

In addition, there may be “financial exclusion” by traditional financial institutions as well as

commercial banks and a “hot outside, cold inside” phenomenon of financial inclusion (Song, 2023), which leads to inefficiencies in lending and borrowing. Digital inclusive finance will relieve this phenomenon as well as make corporate technology financing more efficient. As most of the science and technology innovations are time-sensitive, Expired projects lead to the waste of capital and time cost of the enterprise and even bankruptcy. This financial model can improve the efficiency of corporate finance by constructing a streamlined loan approval process, which enables fast approval of SME-financed loans and a nearly 20% increase in approval speed (Song, 2023).

Moreover, under the traditional economic model, commercial banks may encounter challenges in comprehending the operating conditions of SMEs due to the lack of information collection, financial strength, and solvency, thus reducing trust in them and making them more cautious in providing financial services, or even refusing to provide them. This ultimately makes it difficult for SMEs to access external financing and hinders technological innovation. However, the financial inclusiveness contributes to providing diversified financial services to those who the traditional financial system cannot cover. It can accurately assess the risk profile of enterprises, customize financial services according to their risk characteristics, encourage technological innovation, and assist in the planning and management of innovative projects.

2.3 Impacts of Digital Financial Inclusion on Business Transformation and Upgrading

First of all, since SMEs are the main source of the country's major economic output, it is important to actively promote the new development of SMEs, which is an inevitable trend for China to move towards its second hundred-year goal. For the transformation and upgrading of SMEs, the study of Li et al. explains its definition in detail, that is, transformation mainly refers to enterprise transformation between different industries and development models, and upgrading refers to continuous improvement of firms in the industrial chain and value chain through innovation and integration (Li, 2023).

Due to the fierce market competition, SMEs are generally eager to form a strategic cooperation system with a complete supply chain by looking for partners. The supply chain is centered on the core enterprise, which is usually a listed company or a large

enterprise, while ordinary SMEs are usually dealers downstream of the supply chain. Because first-tier suppliers generally hold the “lifeblood” of the core enterprise, Suppliers directly connected to the core enterprise are first-tier suppliers, and generally first-tier suppliers are better-developed SMEs, while other common SMEs mostly serve first-tier suppliers. Theoretically, this will allow companies in the supply chain to grow better and cope better with the storms and turbulence of the market. However, the imbalance between core firms and firms at the two ends of the supply chain puts SMEs at both ends of the chain in a more constrained position when negotiating with core firms. Among them, some core enterprises in the supply chain credit sales to upstream SMEs, so that they can only use most of the business funds to pay for the working capital and inventory related to the core enterprises in the supply chain. Downstream SMEs adopt the receipt and payment method of cash settlement or collection in advance, leaving most fluid funds occupied and thus can only reduce the amount and frequency of their purchase of raw materials. Additionally, due to upstream credit sales, first-tier suppliers cannot get funds quickly and deliver them to lower-tier suppliers, making their credit assessment impaired and financing difficulties worse. Downstream, given that the core enterprise requires downstream sellers to collect payment immediately when dealing with retailers or downstream customers, may trigger doubts about the trust of customers or next-tier partners, damaging the enterprise's credibility.

In this case, the role of digital financial inclusion is demonstrated. Digital financial inclusion allows SMEs to have sufficient liquidity so that some potential SMEs will not lose their credibility due to the biased treatment and unfair delivery methods in the supply chain, which in turn improves financing and operational difficulties. Digital financial inclusion enhances the imbalanced position of SMEs in the supply chain by reducing their business risk and instability. In the future, more investors will also increase their trust in SMEs based on their transaction records with core enterprises in the supply chain, rather than determining the strength of an enterprise through its short-term operations. This will help more promising enterprises to try other fields or develop new technologies with sufficient capital.

3 BARRIERS TO THE DEVELOPMENT OF DIGITAL FINANCIAL INCLUSION

Current research on impediments to the development of digital financial inclusion finds that these impediments involve a variety of aspects such as infrastructure, data privacy, regulatory policy, market acceptance, financial education, and economic and social factors. This paper will explore three impediments in terms of financial risk, investment scale, and digital transformation.

3.1 Financial Risk (FR)

The improvement of financial security makes the growth of digital financial inclusion initially rise slowly and tend to a stable state, but when financial security is improved to a certain extent, its positive impact is rapidly diminishing and even transformed into an inhibitory effect (Liu, 2023). Financial risks and benefits coexist, it follows that on the one hand, if too much emphasis is placed on the rapid development of digital financial inclusion, there may be a lapse in risk management. On the other hand, while an excessive focus on financial risk control can reduce the likelihood of risk, it also limits the popularization and diffusion of its financial services. This is shown in the existence of a reverse inhibitory link between the development of digital inclusive finance and financial hazards to some extent. High financial security is also a hindering factor. Strict risk controls lead to high service thresholds and overly burdensome review processes. To achieve excessive security, financial institutions often need to invest significant resources in technology development, risk monitoring, and compliance management. These cost increases may be passed on to customers, leading to higher prices for digitally inclusive financial services, which in turn affects social stability. As a result, too much financial security without finding the right balance between risk control and service expansion may dampen the development of digital financial inclusion.

3.2 Investment Scale (IS)

The increase in the scale of investment causes an initial rise in the growth of digital inclusion, but when the scale continues to grow, more investment presents a significant disincentive to digital inclusion development (Liu, 2023). More investment can support digital financial inclusion platforms to

expand their business, promote science and technology, improve service efficiency, and help build a strong risk prevention and control system. However, when the scale of investment is too large, financial institutions may take excessive risks and neglect risk control in pursuit of high returns. The positive impact of increasing the scale of investment diminishes when market saturation is high. In times of economic instability, over-investment can increase its negative impacts, such as increased investment risk, reduced output efficiency, over-allocation of resources, and waste. In addition, high investment also implies huge cost outlays, so financial institutions may raise service fees to cover costs, reducing the inclusiveness of digital inclusive finance and hindering the balance of society. Meanwhile, the influx of investment may trigger excessive competition and lead to market disorder. Further, over-investment may also give rise to industry bubbles, the bursting of which can hit the industry and seriously affect sustainable economic development. Therefore, appropriate investment will reduce the cost pressure on the development of digital inclusive finance, promote the development of technological innovation, and promote economic development.

3.3 Difficulties in Digital Transformation

The integration of digital technologies into all aspects of an organization is referred to as digital transformation, which drastically alters how it operates and provides value to its customers. Digital inclusive finance has a significant indirect facilitating effect on the high-quality development of SMEs by enabling digital transformation (Liu, 2023). Digital transformation can help financial institutions better serve SMEs, and improve the efficiency and quality of financial services. However, some traditional financial institutions have shortcomings in technology research, talent pools, and organizational structures, so enterprises may face challenges in different areas that make it difficult to achieve rapid digital transformation. Moreover, enterprises need to invest sufficient resources and technology and readjust the traditional organizational structure of the enterprise, which requires decision-making and resource allocation by top management, as well as the active cooperation and adaptability of employees. These obstacles impede enterprise digital transformation and hence have an impact on the development of digital financial inclusion.

4 CONCLUSIONS

In this paper, we summarize and elaborate on various studies about the impact of digital financial inclusion in SMEs and the existing obstacles in previous years. For the impacts, we summarize three main aspects. First, digital financial inclusion provides businesses with easier access to financial services through lower financial costs in order to help them invest efficiently. The new mode of investigation and lending can improve enterprise financing efficiency and alleviate the shortage of funds for high-quality SMEs. Ease the financial difficulties of SMEs through efficient financial activities. Secondly, SMEs, as the mainstay of patent innovation in China, should make efforts as soon as possible to solve the obstacles encountered by SMEs in science and technology innovation. Through geographically disruptive online services, efficient lending models, and a widened information network, people can break down the barriers to science, technology, and innovation in SMEs. Third, this financial model can mitigate the imbalanced negotiation position of SMEs in the upstream and downstream of the supply chain by providing them with appropriate funds, ensuring that their credibility is not damaged by factors other than their own, and promoting the sustainable development of SMEs.

In addition, this paper provides a summary of the current impediments to digital financial inclusion. First, people should strive to strike a balance between risk and service expansion when developing digital inclusive finance, as well as to ensure that the development is benign, constructive, and beneficial to the public. Secondly, enterprises should control the quality of investment in digital inclusive finance to prevent excessive hype and follow-through, leading to capital bubbles and wasted resources. Finally, companies should actively promote digital transformation and utilize new management structures to ensure that digital financial inclusion can be carried out efficiently.

The main research direction of current scholars focuses on the theoretical analysis of the impact of digital inclusive finance on SMEs, and the empirical analysis is still relatively rare. Based on this it is necessary to expand from the following aspects. Firstly, it is hoped that future literature will collect data information on SMEs in different aspects. Secondly, because too much theoretical research makes the implementation of digital inclusive finance stay on the surface, scholars should pay more attention to the research on the implementation in the future.

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