Comparative Analysis of Internet Financing Modes Based on Smes' Perspective

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Abstract. In China, it is difficult for small and medium-sized enterprises (SMEs) to gain access to external financial support under the traditional financial mode. However, the internet financing can alleviate this problem effectively, which broadens access to finance for SMEs and promotes their development. By comparing three mainstream Internet financing modes (i.e., equity crowdfunding, P2P lending and big data finance), this paper analyses the unique characteristics of each model and proposes more targeted and specific financing suggestions accordingly for SMEs at different development stages. According to the analysis, equity crowdfunding, P2P lending and online micro-credit loan can cater to the funding demands of SMEs in the introduction, growth, and maturity stages respectively. Meanwhile, enterprises in decline should seek financing strategies that suit their current situation. Based on the existing general risks of Internet financing in China, development suggestions from three levels (i.e., the state, the platform, and the SMEs themselves) are proposed. These results shed light on guiding further exploration of financing modes for Chinese SMEs.

Keywords: SMEs; Internet financing; financing suggestions.

1. Introduction

Small and medium-sized enterprises (SMEs) are an important part of the national economy and society. They have made great contributions in improving human being's livelihood, technological innovation, GDP contribution and finance. Therefore, further promoting the healthy and sustainable development of SMEs in China is an extremely important part of the current economy and society. Capital is the foundation of the enterprise, and ensuring sufficient supply of capital chain is the prerequisite for industrial development and prosperity. However, in China's current financial system, the financing of SMEs is severely restricted. Contemporarily, China has continuously deepened its reforms, issued, and implemented a series of policies and measures that are conducive to the financing of SMEs, aiming to alleviate the financing difficulties of SMEs, to support the production and operation activities of SMEs more effectively. Although these measures have achieved some degree of effectiveness, they have not fundamentally resolved and smoothed out their financing dilemmas. At present, SMEs financing still have the following main characteristics: high financing cost, narrow financing channels and high financing risk. Therefore, the financing problem of SMEs in China still needs to be solved.

Contemporarily, Internet technology has developed and popularized rapidly. With its integration with finance, Internet finance has emerged, (e.g., third-party payment, big data finance, P2P borrowing and crowdfunding). Such a financing mode could effectively address the above issues. It theoretically satisfies the financing needs and broadens the financing channel of SMEs. Therefore, internet financing is an increasingly important area.

Previous scholars have carried out lots of researches focusing on SMEs. The first is the research on the causes of the financing dilemma of SMEs. By analyzing the credit activities of SMEs, Udell and Berger conclude that SMEs are unable to obtain external loans because of their poor information systems, weak capital, and small scale of operations [1]. Li and Lin jointly state that the fundamental cause of SMEs' financing difficulties in China's capital lending market is information asymmetry [2]. Liu believes that the reason for financing difficulties for SMEs in China lies in the particularity of our financial system. The difficulty of SMEs in obtaining loans is due to institutional deficiencies in the indirect financing system, structural deficiencies in direct financing, lack of hierarchy in the capital market and the difficulty of private capital entering the banking system [3].

As for research on Internet financing, Berger and Glersner believe that Internet finance platforms can increase financing efficiency by reducing financing costs, alleviating information asymmetry and reducing the likelihood of reverse selection [4]. Song argues that the use of Internet financing by SMEs has the advantages of alleviating information asymmetry, reducing financing costs, improving financing efficiency and helping to solve credit rationing [5]. Cichy and Gradon focus on the mainstream Internet financing mode, i.e., crowdfunding. They summarize the processes and concepts of the crowdfunding mode and argue that crowdfunding can be an effective way to SMEs financing [6]. Brown research shows that with the rapid development of information technology, the P2P platform can meet the borrowing needs of SMEs. By creating an efficient financial trading platform, SMEs can reduce their reliance on traditional financial Institution [7]. Research by Chen shows that although Internet finance has many advantages, there are significant risks to each financing platform. He suggests that the Internet finance platform should be improved, industry norms should be strengthened and relevant laws should be improved [8].

All scholars believe that Internet financing is of great help to solve the existing financing dilemma of SMEs. They summarized in detail the causes of the financing dilemma of SMEs under the traditional financing modes: information asymmetry, smaller enterprise size, low credit, and insufficient collateral ability. It is believed that big data finance, P2P lending, crowdfunding and other Internet financing modes can solve the above problems effectively. The existing studies mainly focused on analyzing the financing dilemmas of SMEs under the traditional financing mode, as well as the overall advantages of the Internet financing mode. At present, there is a few research focusing on the unique characteristics of the various mainstream modes of Internet financing and the proposed modes of Internet financing for SMEs in different development stages. As SMEs at different development stages have different financing difficulties, the way to make good use of the new financing channel of Internet financing to solve the financing problems for SMEs at different development stages is the main research direction of this paper.

In terms of theoretical significance, this paper comparative analyzes the case of mainstream Internet financing mode in China, which makes the research on Internet financing mode theory more concrete. Moreover, more specific financing proposals are put forward for SMEs at different stages of development. This refined the few existing theoretical studies. In terms of practical significance, Internet financing is an emerging mode, and its in-depth research helps enterprises and individuals to gain a deeper understanding of the Internet financing system. Besides, by matching the advantages and disadvantages of various Internet financing modes and the characteristics of the capital needs of enterprises at different stages of development, this paper provides the financing strategy for the sustainable and healthy development of SMEs at all stages of development.

The reminder of the paper will be separated as follows. The second part of this paper analyzes the definition and platform operation modes of crowdfunding, P2P lending and big data finance, and comparative analyzes typical cases to derive the advantages and disadvantages of each mainstream mode. The third part elaborates the characteristics of funding needs of SMEs at different development stages and proposes reasonable and feasible financing strategies based on the advantages and disadvantages of each financing mode mentioned above. The part IV points out the common problems of Internet financing in China and proposes solutions to them. The fifth part summarizes the whole text and provides an outlook on future research.

2. Characteristics of Mainstream Modes of Internet Financing

2.1 Equity Crowdfunding Mode

2.1.1 Typical platform Zhongtoubang

Participants can be divided into three categories: Zhongtoubang platform, project parties and investors. The platform builds a bridge between the project side and investors. It is responsible for the review of financing projects and the presentation of project information. After registration and approval, the project issuer shall fill in the complete project enterprise information and business plan. This includes the basic information of the enterprise, the performance forecast, the market and financial situation, the intended financing amount, and the proportion of equity transfer. Investors on the Zhongtoubang platform can be divided into leading investors and following investors. The lead investor is responsible for screening projects and leading the investment of the following investors. They are responsible for the selection and management of the project, while the following investors are responsible for the project follow-up. In addition, no more than 50 people can invest in each project. A schematically illustration of the operation mode is shown in Fig. 1.

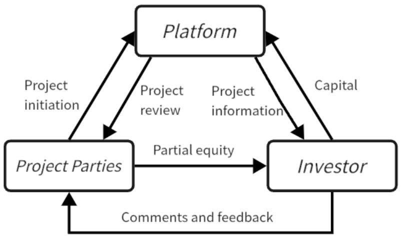

Fig. 1 The operation mode of Zhongtoubang.

2.1.2 Unique advantages

Firstly, the platform introduces the mechanism of leading investor role. The lead investor has excellent professional ability, anti-risk ability, project management ability, and has rich experience in equity crowdfunding. Therefore, after the lead investors select high-quality projects and invest a certain proportion of capital, the investment confidence of the following investors will be greatly enhanced, the degree of information asymmetry will be reduced, and the financing efficiency will be improved. Secondly, the operating mechanism of this platform helps to develop and promote the project. In this investment mode, a project has multiple investors. Therefore, in the process of financing, it can accumulate customer resources, so as to achieve the role of marketing and publicity. A financing project with a development prospect can not only obtain the financial support of many investors, but also gain their trust, which can save the publicity cost of the enterprise in the later stage. At the meantime, this financing mode can promote continuous innovation among SMEs. Equity crowdfunding is a partnership between a fundraiser and a number of investors. [9] As a fund raiser, if the product idea or project is attractive enough, it will be favored by investors, thus obtaining financial support. In this case, it will promote the continuous innovation of the enterprise's products. In addition, by raising funds through crowdfunding platforms, SMEs can reduce their financing costs and increase financing speed. After the corporate project makes a profit, the fund raiser does not have to pay back the principal and interest, but gives a portion of the equity to the investor in return. This can reduce the financing cost and capital pressure of enterprises. Equity crowdfunding does not require collateral but attracts investors with the appeal of creative projects and the credit of SMEs.

2.2 P2P Network Lending

2.2.1 Typical platform FinVolution Group

P2P mode is a direct lending relationship between borrowers and investors through an Internet platform. In China, P2P lending platforms are mainly divided into four modes. This paper will take the pure intermediary mode FinVolution Group as the analysis object. It uses a pure online and platform model. Its operation mode is illustrated in Fig. 2, where the platform itself does not provide guarantees, funds, and loan. Whereas, it only provides intermediary services such as information exchange, technical support, and fund management. The borrower releases the loan information, including the loan amount, term, purpose, expected annual interest rate and other information, and then generates the loan bid after passing the qualification audit of the platform. Investors decide whether to invest or not, and enter lending deals after bidding [10].

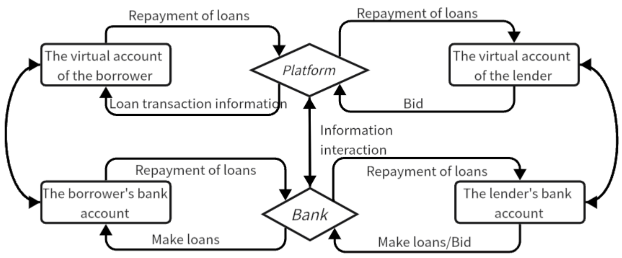

Fig. 2 The operation mode of FinVolution Group.

2.2.2 Unique advantages

The unique advantages of P2P lending, firstly, derive from the platform's own operational processes. FinVolution Group is a pure intermediary mode. The platform does not provide guarantee, and is not responsible for the issuance and repayment of funds. Moreover, it is unable to bear risks. Investors and enterprises directly participate in lending, and the three participants do not know each other. Hence, there is no credit rationing, which accelerates financial de-intermediation [11]. At the same time, the more detailed the information uploaded by the borrower, the higher loan amount and shorter lending time will be. It provides an incentive for borrowers to provide more information, thus reducing the degree of information asymmetry. Additionally, the threshold for financing through P2P platforms is quite low. Since the platform requires less information of borrowers, and the borrowing process is relatively simple (without mortgage and guarantee), which lowers the financing threshold of SMEs to a certain extent, suitable for most SMEs with "short, frequent and fast" funding demands. In addition, when SMEs release loan information on P2P platforms, they can flexibly configure credit products according to their own needs, and independently decide the interest rate and repayment method of financing projects [11], which helps SMEs to access personalized, distinctive, and diverse credit products. The borrowing cost can be reduced and the efficiency of the use of funds can be improved by making personalized borrowing needs.

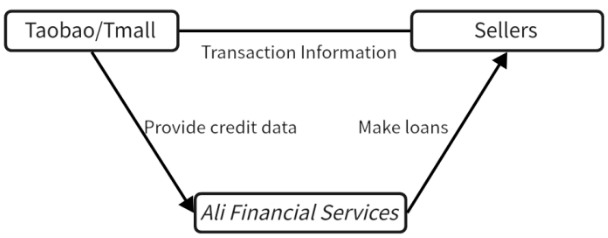

Fig. 3 The operation mode of Alibaba Small and Micro Financial Services.

2.3 Big Data Finance

2.3.1 Typical platform Alibaba Small and Micro Financial Services

Online micro-credit loan based on big data finance is a mode in which e-commerce platforms collect and analyze the transaction and behavior data of buyers and sellers, and then provide micro-credit loan for merchants. Relying on the e-commerce platform's own customer data and external data and combining with the analysis of big data technology, it greatly reduces the degree of information asymmetry and improves the financing efficiency of SMEs [12]. The online micro-credit loans provided by Alibaba Small and Micro Financial Services platform are mainly for SMEs and individuals on Tmall and Taobao platforms [12], this paper takes this as an example to introduce. The operation mode is exhibited in Fig. 3. Its essence is a kind of unsecured, unsecured pure credit loan for merchants. The platform system makes a comprehensive assessment of merchants' historical transactions, lending information, assets, credit risk and other factors, then calculates the credit line.

2.3.3 Unique Advantages

Primarily, Alibaba Small and Micro Financial Services platform has significant technological advantages. With the support of Alipay, Alibaba Cloud computing platform and artificial intelligence, Alibaba Small and Micro Financial Services formed the final decision model through the cooperation of various sections (e.g., credit model, credit approval, risk management and loan products) [12]. The platform can obtain all the transaction data of the merchants, and analyze the credit status, capital, and operation status of the enterprises accordingly, so as to provide customers with personalized credit products and services. It can significantly reduce the degree of information asymmetry to improve the accuracy and scientific nature of loan issuance. Moreover, the e-commerce platform has strong risk control ability, which has a multi-level risk identification, early warning, disposal, and management system for online small credit loans. Alibaba uses Alipay, Ali Cloud and other technological means to control the transaction behavior and capital flow of SMEs in real time, implement credit risk warning anytime and anywhere to realize risk control in loans [13]. Simultaneously, the system also automatically supervises the use of funds, operating conditions, capital transactions and other behaviors, which can improve the risk control after the loan. More importantly, after obtaining loans, SMEs will use the funds to expand production scale. The e-commerce platform will also make profits from the trade. After the loan recovering, the funds will continue to provide online micro-credit loan services for enterprises. In this case, it produces the combination effect between industry and finance, forming a virtuous cycle of development.

2.4 Comparison of Different Modes

Based on the above analysis, Table 1 demonstrates the shared strengths and unique advantages among the three mainstream Internet financing modes of equity crowdfunding, P2P lending and big data financial platforms.

Table 1. Characteristics analysis of Internet financing mainstream modes.

	Shared strengths	Unique advantages
Equity crowdfunding	1. Reduce financing costs 2. Improve financing efficiency 3. Reduce information asymmetry level	1. The mechanism of introducing a lead investor role 2. Promotional effect 3. Accelerate enterprise innovation and reduce financing costs 4. Improve financing speed
P2P lending		1. Platform itself 2. Low threshold for loans 3. Personalised, distinctive, and diverse loan products
Big data finance		1. Significant technical advantages 2. Strong risk control ability 3. Combination effect between industry and finance

3. Advice on Financing for SMEs at Different Development Stages

According to the above analysis, the financing dilemma of SMEs in China has not been solved fundamentally and effectively, and the Internet financing mode is an effective way to address this issue. The financing dilemmas faced by SMEs at different development stages are different, so it is necessary to provide separate financing suggestions for SMEs at different development stages. By combining the characteristics and advantages of the mainstream modes of Internet financing in China analyzed above, this chapter proposes more specific and targeted financing approaches for SMEs at different development stages.

3.1 The Introduction Stage

In introduction stage, enterprises have smaller scale and weaken capital strength, and face greater operational and financial risks. Therefore, they need a large amount of external financing to support their development, and the capital demand is large and more frequent in this stage. Theoretically, in this stage, SMEs are mainly financed through bank borrowing and venture capital [14]. However, practical experience shows that it is difficult for banks to assess the risk of introduction stage enterprises. In fact, the information is uncompleted (e.g., production and operation records, transaction records and financial statements), making enterprises difficulty to obtain loans from banks and other financial institutions. Venture capital prefers to invest in technology-intensive SMEs, but most of SMEs are labor-intensive, making it difficult for them to be favored.

In the Internet financing mode, since the online micro-lending and P2P network lending are all based on big data information, it is also difficult to provide loans to introduction stage SMEs. However, in the equity crowdfunding mode, financing is based on the information provided by SMEs themselves (project information, development plans, expected returns, etc.). This mode adopts a "lead + follow-up" approach to investment through offline "matching" and online trading, which solves this dilemma effectively [11]. It fits perfectly with the capital needs of SMEs in the introduction stage. Therefore, the equity crowdfunding mode can better meet the financing needs of introduction stage enterprises.

3.2 The Growth Stage

In the growth stage, the scale of SMEs gradually expands, and the profit level grows rapidly, which has a good expectation. In the traditional financing mode, enterprises at this stage mainly finance through bank loan guarantee and commercial credit [14]. Although the credit of enterprises has been improved to some extent, there is still the problem of information opacity, and it is difficult to obtain financial support from banks. At this stage, the enterprise needs more long-term financial support. Commercial credit is a short-term financing provided by the seller to the buyer, so commercial credit cannot fundamentally solve the financing problem, but can only play a role in easing it.

The transaction information, financial information, and business information of enterprises in the growth stage began to accumulate gradually, but it is still difficult to reach the threshold of online micro-credit loan. P2P online lending takes small, short-term and credit loans as the main business, and low loan threshold. Enterprises can flexibly allocate credit products according to their own needs, and independently decide the interest rate and repayment method of financing projects [11]. All these fit well with the characteristics of the capital demand of SMEs in the growth stage. Therefore, P2P financing mode can better meet the financing needs of growing SMEs.

Although the P2P model can provide financial support for growing stage SMEs more effectively, it has various problems (e.g., imperfect legal system and inadequate supervision), and the public's insufficient understanding of its risks. This has led to massive thunderstorms on the P2P platform in recent years. Therefore, at present, enterprises will face great obstacles and certain risks in financing through P2P platform. However, in the future, with the continuous improvement of laws and regulations related to P2P lending, this mode will still help SME financing.

3.3 The Maturity Stage

SMEs in the mature stage have formed economies of scale, their profitability has reached its peak, their credit status has improved significantly, their operating and financial risks have been greatly reduced, and their development conditions have matured. Mature enterprises have the greatest demand for medium- and long-term capital, while the financing frequency decreases. Nevertheless, under the traditional financing mode, credit discrimination still hinders the development of SMEs at this stage. At this stage, enterprises are mainly financed through endogenous financing, bank borrowing and capital markets. However, due to the limits of the size of SMEs themselves, their endogenous financing cannot meet the funding demands of themselves. Most SMEs are unable to meet the threshold for listing on China's capital market, while the development of China's bond market is relatively backward, therefore it is difficult for SMEs to successfully raise capital through the above means [14].

The enterprises in this stage have accumulated a large amount of behavioral data, and financing on the e-commerce platform allows them to obtain personalized credit products that can meet their needs. At the same time, the combination effect between industry and finance is beneficial to the development of the enterprise itself. This fits perfectly with the characteristics of the capital needs of SMEs in the maturity stage. Therefore, the online micro-lending financing mode can better meet the financing needs of enterprises in the maturity stage.

3.4 The Decline Stage

SMEs in decline stage suffer from a sharp decline in production scale, which leads to unfavorable situations such as insolvency and withdrawal of financing. The capital needs are time-sensitive and in high demand. SMEs at this stage should actively seek to merge and restructure, transform and upgrade so as to avoid bankruptcy and collapse. As a result of undergoing the first three stages of development, companies have accumulated a large amount of behavioral data on e-commerce platforms and can restore their credit to a certain extent by using internet financing. Therefore, SMEs at this stage still have the advantage of using the Internet for financing. Thus, SMEs should compare the advantages and disadvantages of various Internet financing modes and then choose the financing scheme that best suits their own situation in a flexible manner.

3.5 The Summary of Different Stages

With the above analysis, this paper has obtained the characteristics of enterprise development, characteristics of funding demands and financing suggestions for SMEs at different development stages, as shown in Table 2.

Table 2. Financing suggestions for each development stage.

	The Introduction stage	The growth stage	The maturity stage	The decline stage
Enterprise development characteristics	1.Smaller scale 2. High operational and financial risk 3.Lack of historical data information	1.Gradual expansion of the enterprise scale 2.Risks have decreased 3.Have good expectations	1.Reach the profitability peak 2.Significantly improved credit status 3.Development conditions have matured	1.Sharp decline in production scale 2.Insolvency 3.Financing Exits
Characteristics of funding demands	1.Higher demand 2.Frequent demand	1.Highest demand, mainly short-term 2.Frequent demand 3.Urgent demand	1.Dominated by medium and long-term funding; 2.The frequency of financing has decreased	1.Highly time-sensitive 2.Higher demand
Financing suggestions	Equity crowdfunding mode	P2P lending mode	Online micro-lending mode	Choose the financing scheme that best suits their own situation in a flexible manner.

4. General Risks and Development Suggestions of Internet Financing

4.1 General Risks

Firstly, China's current policies on internet finance have played a positive role in promoting its development. However, in some aspects, regulation is far from sufficient, while in others is over-regulation, which has hindered the development of the platform. internet financing mode has just started in China, and there is not yet a set of detailed and perfect laws and regulations on it. Secondly, most internet financing platforms can only analyze the historical information of SMEs, but it is difficult to predict the credit status, financial status, and business development of it, which makes it risky in terms of risk control. This has directly led to the frequent leakage of information about platform users and the phenomenon of malicious loan fraud by enterprises in recent years. Thirdly, many SMEs have difficulties in managing their cash, cost control and credit policies in a scientific and efficient manner, which leads to greater financial risks. In terms of operational risk, many enterprises have inadequate internal control mechanisms, resulting in the inability to stop losses in a timely manner when they are suffered.

4.2 Development Suggestions

Primarily, the government should strengthen its supervision and thus enhance its efficiency. At the same time, laws and regulations should be improved, so as to exert the restraining effect of the law effectively. The market, capitalists and regulators should be delineated into a set of systems. Meanwhile, the credit system in China should be continuously improved and investors should be given access to information related to the business status and default of enterprises timely. Secondly, the Internet financing platform should continuously improve its technology to strengthen the protection of network security. It ought to continue to improve its risk assessment mechanism and make the credit rating system and information confidentiality system institutionalized and standardized, so that it can ensure the customer's information security. Besides, cooperation between platforms should be strengthened to achieve data sharing in order to reduce financing costs and improve financing efficiency. Thirdly, SMEs should maintain a good credit image. They should pay more attention to the legality of their business operations and the credibility of public information. Moreover, SMEs should improve their financial management system, enhance their internal control system and strengthen their own business management so that they can raise their own strength sustainably.

5. Conclusion

In summary, this paper investigates the recommendations on internet financing based on the SMEs perspectives. Specifically, by analyzing the unique characteristics of the three mainstream modes of Internet financing and based on the characteristics of the funding demands of SMEs at each development stage, this paper has put forward more targeted financing recommendations. According to the analysis, when the equity crowdfunding mode adopts the unique "lead + follow" mode, the role of the lead investor plays an important role. The operation mechanism of the platform promotes the continuous improvement of project quality, which is conducive to the development and promotion of the project. It can better meet the financing needs of introduction stage SMEs. In addition, the pure intermediary mode of the P2P platform accelerates the de-intermediation of finance, while providing customers with personalized, distinctive, and diversified credit products. It can better meet the financing needs of growth stage SMEs. Besides, Internet micro-credit loan based on big data finance has significant technical advantages and platform risk control capabilities and can play a role in the combination between industry and finance. It can fulfill the financing needs of SMEs in the mature stage. Nevertheless, this paper only matches the characteristics of the capital demands of SMEs at different development stages with the characteristics of mainstream Internet financing modes at a theoretical level, and proposes financing recommendations accordingly. However, in practical application, the effect of using the above suggested financing solutions is yet to be further discussed. Overall, these results offer a guideline to the financing strategies of SMEs.

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