

# A Study on Financing Problems of Medium and Small-sized Technology-based Enterprises

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**Abstract:** Technology-based SMEs have the advantages of short construction period, fast decision-making mechanism, low management cost, high innovation efficiency, etc. However, financing difficulties have always been an important issue that plagues the development of high-tech SMEs. The problem of corporate financing will not only hinder the process of technological innovation, but also reduce the efficiency of achievement transformation. This article sorts out the typical financing problems of technology-based SMEs, and proposes suggestions from strengthening corporate system construction, broadening financing channels, enhancing market financing vitality, and improving support policy systems, in order to improve the financing of technology-based SMEs.

**Keywords:** Technology-based SMEs; Financing problems; Financing countermeasures

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## 1 Introduction

Technology-based SMEs refer to SMEs that rely on a certain number of scientific and technological personnel to engage in scientific and technological research and development activities, obtain independent intellectual property rights and convert them into high-tech products or services, thereby achieving sustainable development. The current technology-based SMEs have the advantages of short construction period, fast decision-making mechanism, low management cost, and high innovation efficiency.

At the same time, due to the special nature of this type of enterprise, high-tech SMEs also face problems such as small scale of fixed assets, more intangible assets, inability of management systems to adapt to the development of enterprises, high operating risks, and large investment in scientific research and development. Therefore, failure to solve the financing problem of technology-based SMEs will not only mean that there is no return on the initial investment, but will also cause a great blow to the enterprise.

## 2 Financing characteristics of technology-based SMEs

The financing of technology-based SMEs is undoubtedly a process of gaming with high risks. Financing has the following characteristics: First, it prefers endogenous financing, which has become the first choice for technology-based SMEs due to its low cost advantage. Endogenous financing mainly relies on the accumulation of funds from within the enterprise. If technology-based SMEs can have a certain amount of capital stock through operation, it is undoubtedly the best financing option. However, in reality, some companies even resort to methods such as selling assets to obtain endogenous financial support. This shows that relying on endogenous financing is not reliable. The second is to seek bank loans. When endogenous financing cannot satisfy the development of high-tech SMEs, high-tech SMEs often turn to banks for help. Due to many reasons such as stringent bank lending requirements and strict review conditions, most high-tech SMEs often return without success, even if some are relatively qualified. Although some high-credit high-tech SMEs can obtain loans from banks, the total amount of funds

is also very limited, and may have to pay the capital cost of bearing high interest rates.

### **3 Problems in financing technology-based SMEs**

#### **3.1 The company's own financing capacity is insufficient**

At present, most technology-based small and medium-sized enterprises in China are still in the start-up or growth stage, with small business scales, and their resources are mainly concentrated in technology research and development. It is easy to overlook the establishment and improvement of modern enterprise systems. Lack of a scientific internal control system, inadequate financial management, and widespread distortion of disclosed financial information, which cannot truly reflect the financial status of enterprises. This has resulted in high-tech small and medium-sized enterprises failing to successfully pass the credit fund lending review of financial institutions and making financing difficult. Small business scale and irregular corporate internal systems also bring higher operating risks to technology-based small and medium-sized enterprises. Since the establishment time is not long, especially those in the start-up period, the time to enter the market is shorter and the accumulation of capital assets is relatively weak, making technology Small and medium-sized enterprises cannot withstand market risks.

In addition, with the advancement of technology and the acceleration of product update iterations, the market risks faced by enterprises also increase. Investors will consider the uncertainty caused by business risks, and then make a decision to abandon investment, which will increase the enterprise internal financing difficulty. High-tech SMEs generally have a long R&D cycle, and the R&D investment represented by R&D personnel salary payment and R&D equipment procurement is relatively high, and the capital demand is large. At this stage, it is relatively difficult for high-tech SMEs to achieve external financing. If the company lacks a scientific and reasonable financing plan, it will lead to the phenomenon of "A drowning man will catch at a straw", that is, business managers blindly pursue the success rate of "financing funds", often ignoring the cost of capital and capital use plans. Once the funds are successfully raised, some high-tech SMEs

may change the use of funds at will due to the lack of a complete corporate credit system. At the same time, because the transformation of scientific and technological achievements is greatly affected by the market environment, business performance fluctuates frequently, some companies cannot repay in time when funds are due, and corporate credit is reduced, which brings certain difficulties to subsequent refinancing.

#### **3.2 Not many financing channels**

In recent years, in order to support the growth and development of technology-based SMEs, my country's financial market has been reformed and new, and various regions have introduced measures to innovate and develop a number of technology financial products and services to meet the financial needs of enterprises. The financing channels for technology-based SMEs have become increasingly diversified. At present, the financing channels of technology-based SMEs mainly include endogenous financing and external financing. However, in actual operation, nearly half of technology-based SMEs mainly use endogenous financing methods, that is, funds are accumulated through the transfer of retained earnings into capital, the transfer of public reserves into capital, and the transfer of depreciation to replacement investment. The assets of small and medium-sized technology-based enterprises in the start-up and growth stages, are mainly concentrated in intangible assets such as R&D technologies and applied patents. Factory buildings and office spaces are basically leased, fixed assets account for relatively low proportions, and the value of collateral is small. This makes it more difficult to apply for bank loans, or the amount of loan applied for is also strictly restricted. At the same time, due to the monopoly of state-owned banks, small and medium-sized banks are limited by their own scale and cannot provide sufficient credit funds to small and medium-sized technological enterprises. Therefore, although bank financing is the most important external financing channel for technology-based SMEs, it still cannot meet the capital needs of enterprises.

In addition, my country's capital market has relatively high barriers to entry, and technology-based SMEs are basically non-listed SMEs. Obviously, they cannot raise funds through stocks or bonds. Although the emergence of the "New Third Board" market has

brought good news to the financing of non-listed joint-stock companies, it is also limited by the harsh trading conditions of companies, and technology-based small and medium-sized enterprises often can only stay away. Venture capital is generally one of the commonly used financing methods for innovative and entrepreneurial enterprises, but most of the venture capital institutions in my country are more willing to invest in technology-based enterprises in mature industries that have entered a mature development period. In contrast, medium and small-sized technology-based enterprises have problems such as unclear development prospects and high operating risks, and are difficult to be favored by venture capital funds. In addition, venture capital industry has just started in China, the venture capital exit mechanism is not perfect, and the capital exit channels of venture capital institutions are not smooth, resulting in a shrinking state of venture capital overall, which undoubtedly worsens the financing of technology-based SMEs.

### **3.3 High financing costs**

In China, During the operation of the financial market, commercial banks have limited credit funds and cannot fundamentally solve the problem of shortage of funds. At the same time, due to the downward pressure of the macro economy in the past two years, commercial banks have generally adopted tightening of interest margins between deposits and loans to protect their own profits, and passed the squeeze costs to small and medium-sized technology-based enterprises that are more passive in bargaining, resulting in high financing costs. For example, some financial institutions withhold part of the principal in the name of margin when providing credit funds, indirectly increasing the cost of capital. At the same time, in the process of applying for credit funds, procedures such as mortgage registration and asset evaluation are cumbersome, which incurs high processing fees, and also brings certain financing pressure to small and medium-sized technological enterprises. When high-tech SMEs face problems such as insufficient start-up funds and poor application for bank credit funds, most companies will rely on private financing to solve the problem of insufficient funds. However, the cost of private financing is relatively high, and there is greater uncertainty in the time and amount of redemption of funds, which

puts forward higher requirements on the liquidity of technology-based small and medium-sized enterprises, and financing costs and financing risks increase accordingly.

### **3.4 Insufficient government support**

#### **3.4.1 The amount of government support is small**

Under normal circumstances, the state mainly promotes the renewal and development of such enterprises through the establishment of technological innovation development funds. However, the scientific and technological innovation development fund established by the Chinese government does not require much funds for the development of technological SMEs. As technology-based SMEs account for a high proportion of intangible assets and have a small amount of fixed assets, the amount of government funding for technology-based SMEs cannot exceed 20% of the registered capital of SMEs and the maximum limit is 1 million yuan. This will result in very few state subsidy funds that technology-based SMEs can apply for, which will not be able to meet their needs for scientific and technological research and development and transformation of results.

#### **3.4.2 There are many restrictions on government support**

The Chinese government mainly uses government funds to invest, subsidize, and subsidize loan interest. The three are integrated to encourage small and medium-sized technology-based small and medium-sized enterprises to transform their scientific and technological innovation results into practical products. However, in practical applications, in order to ensure that mature scientific research and innovation products are immediate and to promote the development of the national economy, the state often invests supporting funds in the established scientific and technological industries, resulting in the lack of funds for those scientific research prototypes that are still in the research and development stage. support. At the same time, the application conditions for scientific research and innovation funds are relatively cumbersome, and it may take several months for companies to go from project application to approval.

#### **3.4.3 Suggestions on financing countermeasures for high-tech SMEs**

The financing of high-tech small and medium-sized

enterprises is characterized by high investment and high risk. High-tech small and medium-sized enterprises need to invest a lot of funds in the entire stages of research and development, experimentation, and achievement transformation. If they want to survive and develop, they can only constantly seek financial support.

#### **4 Suggestions on financing strategies for small and medium-sized technology-based enterprises**

The financing of technology-based small and medium-sized enterprises has the characteristics of high investment and high risk. The technology-based small and medium-sized enterprises need to invest a lot of funds in the whole stage of research and development, experiment, achievement transformation, etc., and they can only continue to seek financial support if they want to survive and develop.

##### **4.1 Improve the corporate management system**

Only by constantly improving their own management systems can technology-based SMEs solve the financing difficulties caused by their own reasons. The management system of any enterprise is not accomplished overnight. For technology-based SMEs, it is difficult to quickly establish various management systems suitable for enterprise development. In the gradual establishment and improvement of various management systems, technology-based small and medium-sized enterprises should actively learn from the advanced management experience of other companies in the same industry, learn from each other's strengths, and form a set of scientific and reasonable modern enterprise management systems. These systems should include financial management systems, human resource management systems, etc. The resource management system, especially the financial management system, should be more detailed and clear, so as to guide the financial work of the enterprise, and ensure that the financial status and operating results reported by the enterprise are open, transparent, true and accurate. Dispel the worries of investors and creditors, reduce the interference of information asymmetry on corporate financing, and use effective systems as a guarantee to continuously improve the comprehensive competitiveness and credibility of enterprises in the financing market, and

improve the level of corporate financing.

##### **4.2 Broaden financing channels**

Obviously, single endogenous financing can no longer meet the capital needs of the sustainable development of technology-based SMEs. It is necessary to continue to broaden the financing channels of enterprises, realize diversified financing, reduce financing costs, and improve financing efficiency. Technology-based SMEs should actively use the advantages of Internet financing to solve financing difficulties with financing methods such as P2P, crowdfunding, and asset securitization. Improve the multi-level stock market system, provide the possibility for technology-based small and medium-sized enterprises to expand financing channels, further standardize the functions of the Growth Enterprise Market, and measure the value of listed technology companies with more reference to the future growth and growth space of the company. High-tech SMEs should speed up the construction of over-the-counter trading markets. High-quality technology-based small and medium-sized enterprises with high-quality over-the-counter transactions will give priority to direct financing through the IPO queue to enter the main board to shorten the corporate financing cycle. At the same time, it can give full play to the role of the bond market in solving the financing difficulties of technology-based SMEs, establish a multi-level bond market, reduce the credit rating requirements and bond issuance costs of bond issuers, relax the bond issuance conditions for technology-based SMEs. Lower the barriers to entry in the bond market and stimulate the enthusiasm of small and medium-sized technology-based enterprises to raise funds through the bond market. Improve the operation and exit mechanism of venture capital, improve the efficiency of venture capital investment in equity transactions of technology-based SMEs, and ease the financial pressure of technology-based SMEs on the basis of ensuring the smooth recovery of investment funds and returns. Technology-based SMEs should also actively seek policy support, pay attention to the types of financial support funds and application conditions, and can also build a resource sharing mechanism with similar companies, break information barriers, apply for government support funds in groups. Realize the flow of capital to the industrial clusters of high-tech small and medium-sized enterprises and improve the

financing scale and efficiency of enterprises.

### **4.3 Enhance the vitality of market financing**

In order to effectively solve the financing problems of technology-based SMEs, it is necessary to improve and optimize the financial service system to stimulate the vitality of market financing. Financial institutions represented by banks should promptly change their concepts, innovate services and products, and support the development of high-tech SMEs. State-owned banks and commercial banks above designated size should strive to simplify the loan approval process for technology-based SMEs. At the same time, we should create a credit model for technology-based SMEs in response to the financing needs of technology-based SMEs, actively explore and develop diversified technology financial products and services, and strive to effectively solve the problem of funding gaps for technology-based SMEs. In addition, improving the construction of the guarantee system is conducive to improving the success rate of credit approval for technology-based SMEs. Through the establishment of a technology guarantee company, it will give full play to its comprehensive effectiveness, increase the importance of banks on the intellectual property rights of technology-based small and medium-sized enterprises, lower the threshold for enterprise credit mortgages, and increase the possibility of obtaining loans. Encourage technology-based SMEs to establish joint guarantee agencies, while ensuring a certain profit margin, introduce market operation models to encourage them to provide guarantees for technology-based SMEs, and reduce financial institutions' concerns about the safety of their credit funds. Accelerate the cultivation of financial institutions for small and medium-sized technology-based enterprises, encourage financial institutions to fully compete, and increase loan support for small and medium-sized technology-based enterprises and special funding arrangements for technology finance. At the same time, innovate financing methods, accelerate the promotion of investment and loan linkage, intellectual property pledge, financial leasing, etc., and guide commercial bank credit funds to flow to technology-based SMEs.

### **4.4 The government should increase support for small and medium-sized technological enterprises**

As one of the leaders in the capital financing market, the government should be impartial in

policy formulation and support for the development of enterprises. More attention should be paid to technology SMEs when the government formulates policies, to stimulate the market vitality of such enterprises, and promote the upgrading of high-tech.

First of all, the state should study and formulate the deduction ratio of R&D expenses for the lack of support for technology-based small and medium-sized enterprises, and increase tax reduction and exemption and fiscal interest discount policies for technology-based small and medium-sized enterprises. At the same time, the government should strengthen the financial information supervision of technology-based small and medium-sized enterprises, and disclose corporate credit and business information from time to time, which will play a great role in financing applications for small and medium-sized enterprises.

Second, the government has included technology-based small and medium-sized enterprises in the urban innovation bid evaluation system, launched a collaborative innovation mechanism of production, education and research, encouraged governments at all levels to set up special funds for technology-based small and medium-sized enterprises innovation, and provided direct support to small and medium-sized enterprises with suitable conditions.

Third, support the "government + society + colleges and universities" to establish a three-innovation fund, and encourage technological small and medium-sized enterprises with resources to establish internal R&D platforms and participate in the construction of national key innovation projects.

As the source of national scientific and technological innovation and an important carrier for the country to implement innovation-driven strategies, the development of scientific and technological SMEs is of great significance to transforming the economic development mode and adjusting and optimizing the industrial structure. Solving financing problems is currently the primary issue facing technological SMEs. This requires enterprises to strengthen system construction and credit construction to improve their own financing capabilities; enrich financing channels to achieve diversified financing; improve the financial service system to stimulate market financing vitality; the government should transform its functions and promote the construction of a multi-level support policy system.

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