



A Study on the Influences of Financing on Technological Innovation in Small and Medium-Sized Enterprises

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Abstract

As the most vigorous part in the national economy, small and medium-sized enterprises exert an active role in increasing employment, training entrepreneurs, invigorating economy, cooperating with large enterprises and improving market competition and so on. What's more, S&T enterprises of this kind also take an active role in technological innovation. In view of the poor technological innovation ability of small and medium-sized enterprises in China, such an analysis will be helpful for their sound development.

Keywords: Small and medium-sized enterprises, Technological innovation, Difficulties in financing

1. Causes for Poor Technological Innovation in SME in China

1.1 Imperfect Policies and Regulations Promoting SME's Technological Innovation

Ever since the reform and opening-up, some regulations and policies relevant to technological innovation have been established and implemented in China, such as On Strengthening the Construction of Service System for SME's Technological Innovation and The Law of SME Development, and have exerted favorable effects in promoting S&T development and technological innovation. However, some problems also exist: (1) relevant laws and regulations seem empty with some contents repeated, omitted and contradicted. (2) Most of the current policies and regulations relevant to technological innovation in SME support those S&T enterprises, especially the technological innovation programs in high-technology enterprises, such as Torch Program, SME incubators and funds for the technological innovation of small and medium-sized S&T enterprises. However, insufficient importance has been attached to SME in the manufacturing industry, especially the technological innovation of SME in the tertiary industry. (3) In relevant policies, more emphasis is put on the favorable terms for enterprises in the late period of their industrialization than on R&D of technological innovation, the incubation of the achievements in the early period of industrialization, relevant experiments and so on.

1.2 Having not Established Effective Industry-University-Research Cooperation System

Currently, it is very difficult to construct an innovative system focused on enterprises and sticking to the combination of industry, university and research. Due to relevant system in China, industry, university and research have long been separated from each other, scientific research funds and staff are over concentrated in national scientific research universities and institutions and the value of scientific achievements is evaluated according to the funds they gain, the number of issued essays, the academic status of the participants and the level of awards they win. Such an evaluation system succeeds in reflecting the academic value of scientific achievements while neglecting their market value, hence leading to the failure to lead the market or the infeasibility of industrial production. This is a source of scientific resource waste as well as one of the main reasons for Chinese enterprises' poor innovative abilities.

1.3 Incomplete Protection System for Intellectual Property Rights

At present, the incomplete laws and administrative systems relevant to the protection of intellectual property rights in China have resulted in some problems, such as multifarious administrations, ineffective strike against torts, low cost for torts, high cost for safeguarding legal rights, unscientific evaluation system and so on, hence leading to the current

indifferent consciousness of protecting intellectual property rights all over China, low protection level and unbearably high cost for safeguarding legal rights.

1.4 Lacking in Agencies and Collaborative Networks Beneficial for Innovation in SME

Currently, agencies for technological innovation in China include productivity promotion centers, innovation service centers, engineering technology research centers, information centers, intellectual property rights affairs centers, all kinds of technological consultation institutions, permanent technological markets, human resource markets, technological property rights transaction institutions and so on. In spite of their driving force, these institutions are mainly concentrated in large and medium-sized cities, suffering from low level of specialization, poor collaboration, one-fold service function, poor functions of an innovation service system including feasibility argumentation, financing guarantee, patent agency, mediation of disputes and so on, hence failing to provide excellent all-out services for small and medium enterprises. Besides, because most service institutions are established in governmental departments, only a few of them are directly open to enterprises. What's more, only those large enterprises can be served. The high charges of commercial agencies have also prevented SME from getting necessary guidance in their technological innovation.

In addition, insufficient collaboration and communication among small and medium enterprises, independent production, the shortage of necessary techniques during the development process or of formal and informal communication and the shortage of specialized collaboration and technological and sales networks have increased the cost for the transactions among small and medium-sized enterprises and therefore that for their technological innovation.

1.5 Impassable Financing Channels for SME's Technological Innovation

A common problem is harassing the whole world, that is, great difficulties for SME to finance. It was shown in U.S. in 1999 that those commercial banks with their assets less than \$100,000,000 gave 96.7% of their loans to small and medium enterprises; those with assets between \$100,000,000 and \$300,000,000 gave 85% of their loans to them; the data for those banks with assets between \$300,000,000 and \$10,000,000,000 went down to 63.2%; for those with assets between \$10,000,000,000 and \$50,000,000,000 it was 37.8%; for those over \$50,000,000,000 it was 16.9%. It is also shown in relevant surveys that 62% of small and medium-sized enterprises in China regard difficulties in financing as the top obstacle. Faced with the common problem in gaining capital, most small and medium-sized enterprises regard impassable financing channels as their biggest enemy.

1.5.1 Difficulties in Direct Financing

Small and medium-sized enterprises are restricted from being listed on the main board market while the second market hasn't been opened up; they are also unable to finance by issuing bonds due to some policy restrictions.

Risk investment is a financing channel fit for high-tech enterprises, but in China those established companies specialized in risk investment have also found it hard to run their business in accordance with the given risk investment mechanism due to incomplete systems and laws as well as imperfect mechanism for capital exit. Not like in U.S. where different investment companies invest different quotas in different stages of a project in order to spread risks, one company is in charge of the whole process in China. It is well known that risk investment must be accompanied by risks or even failures. However, this hasn't got fully realized in China, where risk investment companies pursue the zero-failure record and therefore there are not many projects able to gain investment from them finally. In addition, the administrative division of local governments at all levels has also made it hard for investment companies to recover their capital.

Private investment hasn't been started up to now. In spite of the overall resident savings over 17,000,000,000,000, private capital has no access to small and medium-sized S&T enterprises in the form of risk investment funds or Angel Capital due to the shortage of effective financial institutional arrangements. Now, private funds are still forbidden by Chinese policies.

1.5.2 Difficulties in Indirect Financing

This problem is mainly manifested in the great difficulties in getting loans and guarantee. In 2005, the short-term loans for all small and medium enterprises were 1,008,300,000,000 yuan, taking up only 11.49% of the total short-term loans. Compared with their roles and their demands for investment and loans, such a proportion seems too low.

2. The Supportive Role of Financing in SME's Technological Innovation

With capital being an indispensable element for SME's innovation, especially their technological innovation, stable financing channels can provide effective guarantee for their innovation process because their technological innovation is not only of high growth and effectiveness but a highly risky economic behavior and therefore is closely related to their survival in such a society based on knowledge economy. In addition, since technological achievements are transformed into commodities in the innovation process, uncertain factors due to technologies as well as market exert influences on this process. In this case, risk investment comes into being and becomes the major force in SME's innovation as well as

the main channel for SME's financing.

3. Financing Countermeasures to Strengthen Chinese SME's Technological Innovation Ability

3.1 Exerting the role of Fiscal Taxation Policies to Compensate for SME's shortage of capital and to Encourage their Technological Innovation

3.1.1 Increasing Financial Input in Science and Technology

A system of stably increasing financial input in science and technology should be gradually established to guarantee higher growth of the input in science and technology than that of the national regular revenue. Financial allocation should be focused on SME's independent innovation projects.

3.1.2 Establishing SME's Diversified Financing System

Funds for SME's growth should be established to deal with special loans, interest subsidies, financial aids for technological innovation R&D and legal aids for SME; commercial banks' service should be improved and their direction of loans should be adjusted to increase the proportion of loans for SME; private, official or mixed institutions guaranteeing SME's credit should also be established; finance lease should be developed to support SME's facility renewal and technological renovation; risk investment mechanism should be perfected and favorable policy environment should be created to guarantee the sound operation of this mechanism due to the particular importance of risk investment for SME; SME should be promoted to be listed on exchange and in order to do that these enterprises' direct financing system should be perfected; a real SME policy bank should be established to change the current asymmetry between the existing policy bank system and SME's development.

3.1.3 Perfecting Taxation Policies and Strengthening Taxation Services for SME

In order to relieve Chinese SME's heavy burden, the current taxation system should be normalized to transform those unreasonable charges into taxes and maintain enterprises' burden at a reasonable level.

3.1.4 Establishing Preferential Taxation Policies Related to Risk Investment.

Necessary preferences can be given to risk investment from the added value of the transfer gained by high-tech enterprises and private capital should be encouraged to participate in risk investment in order to expand the capital channels for it and therefore for SME.

3.2 Developing Risk Investment and Capital Market

The guiding, demonstrating and leading role of risk investment and capital market for SME's technological innovation should be exerted. The prosperity of the whole risk investment industry should begin with a solution to the exit mechanism which calls for the help of capital market. Capital market is able to offer sufficient capital support for SME, to encourage them to strength their normalized operation and basic management, to promote SME's rapid growth through acquisition and merger and to facilitate the transformation and industrialization of S&T achievements.

3.2.1 Vigorously Pushing the Construction of Multi-level Capital Market System

The carve-out board market should be pushed actively. The current SME board market is a part of the main board market instead of a real carve-out board market. It is helpful to establish investors' confidence in Chinese stock market by encouraging more vigorous and prospective enterprises to be listed through great efforts in establishing the carve-out board market.

Meanwhile, the SME board market should also be innovated with faster pace. According to the latest Act of Company and Securities Law as well as the development rules and features of new small enterprises, new standards of issuance and verification different from the traditional ones should be established with emphasis on small innovative enterprises' abilities in R&D, independent knowledge property rights and their potentials for growth. The role of recommending and guaranteeing institutions and the stock exchanges should be fully exerted to improve the marketization of issuance and verification. In addition, exit mechanism, stock incentive mechanism and small-sum financing mechanism should be established in accordance with the principle of "the survival of the fittest" to promote the innovation of transactions and administration systems in the all-tradable system and form the strong vitality of the SME board market.

3.2.2 Strengthening Guidance for Risk Investment Development and Establishing National Guidance Capital for Risk Investment (Mother Funds)

The significance of this measure can be reflected in two ways: government's demonstrative capital will encourage all kinds of capital to establish risk investment institutions and therefore enlarge the capital source for risk investment and strengthen the capital or cash of Chinese risk investment institutions; guidance capital will draw more investment in small and medium-sized S&T enterprises in seed phase and at the initial stage (especially those enterprises with strong independent innovative ability) and therefore improve Chinese enterprises' independent innovative ability.

3.2.3 Establishing Preferential Policies for Risk Investment

Necessary preferences can be given to risk investment from the added value of the transfer gained by high-tech enterprises to encourage more individuals to participate in risk investment.

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