

A Short Review on SMEs, Innovation and Financial Markets

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Abstract

The main aim of this paper is to provide up-to-date information about the relatedness of innovation and financing activities in SMEs in the case of Turkey by referencing researches in literature. Scientific and technological developments have opened new ways in terms of SMEs and their contribution to the development of countries. At that stage financing of innovation and supporting the sustainability of technological improvements within SMEs carry a great importance.

Key words: Innovation, SMEs, Financing, Technological Developments

1. Introduction

This study focuses on issues from the perspective of economic development, SMEs, and basic financing problems. High inflation basically causes the shortening of savings' terms and conditions such as the destruction of healthy income distribution. Then financial system encounters the difficulty of extending long term credits, which on the other hand diminishes the possibility of realizing investment funding and accomplishing investments. Therefore, under these circumstances multilateral agencies would have and in fact is already having substantial amount of importance to lean their support toward the real sector by means of realizing investments. Besides investment, short-term working capital requirements also hold substantial importance in this sense.

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With respect to country level development, on the other hand, technology has been carrying a crucial role in promoting growth and development. Production of a new technology or at least its usage has substantial effect on the course of economic development. Relatively old theories in economic development for long have considered technology as an exogenous factor in production process. Nearly since 1980s, a new ecrole called as evolutionary economists regarded technology as an endogenous ingredient and has given a crucial role to technological innovation in itself.

2. Significance of Innovation

Traditionally, Turkey has been concentrating its effort and investing in on specific sectors, in which industrial firms comprehend that they possess comparative advantage, such as textile manufacturing, construction, food etc. sectors. One of the fundamental culprit in this outcome should be the evaluation of whether this assumed advantage is sustainable or not, and further, whether the process must integrate itself particularly with that higher value added products and processes. This question should not to be left unanswered for the Turkish case.

According to reviewed research results in the area of development economics, it is widely accepted that national development is related directly with the concept of technology, and it highly depends upon the capability of product and process innovations. Innovative capability necessitates macro and micro level social, economic, political, technology policies, and established networks between policy makers and implementers besides their formed institutional background. Depending upon the outcome of the latest Human Development Report 2001, published by the United Nations, we can infer that Turkey cannot be regarded as an innovative country looking through several indicators in manufacturing of high technology products and the total share of research and development investment within total gross domestic product. As a result, current and prospective industrial policies should position the concept of innovation in any sectors, then build up its necessary blocks, and consequently strengthen this capacity as continuous priority so as to reach to the levels of developed countries.

3. Innovation and Finance

One of the most significant constituents to create, commercialize and diffuse a specific technology is financing the needs that encompass from investment phase to working capital requirements. In other words, the issue can also be phrased that an innovation practice needs both long and short term financing, and innovation requires new investments either on tangible or intangible assets. Within this perspective, Bartzokas (2001) states that the structure and attitude of financial markets play a major role on investment decisions, in the end on technical change. Financial institutions can not always be in a proper position to transfer sources either for purchasing - hiring new technologies, or new technology production endeavors. Because, the decision to invest in new technologies inherently contains uncertainty, and requires reductionary measures caused by costs incurred from information gathering from SMEs to financial institutions. Bartzokas (2001) points to a firm level analysis so as to define barriers at the front face of technical change. So-called barriers refer to credit constraint and knowledge gaps. He also suggests that the interaction of these factors exercises significant influence on patterns of industrial organization and corporate growth (Bartzokas, 2001:13).

Diffusion of technology confronts several barriers, of which one of the most significant is finance. The related literature on financing innovation generally handles the issue from the perspective of research and development finance. A general approach to access finance is handled through an exploration of the effect of firm size to access to financial markets. The Schumpeterian argument of large firms' being more innovative character is relayed from financial perspective to a certain extent. It is generally argued that larger firms are more innovative, because they are able to access easily to financial sources, and they are more able to allocate more funds to research and development. As they can allocate more funds on research and development, therefore their capability of innovating increases as a consequence. Furthermore, although the evidence was found consistent with the Scumpeterian approach, the claim of larger firms' higher capability of innovating was suggested to be further systematic research (Symeonidis, 1996:16).

4. SMEs and Finance

Cobham (1999) stresses the importance of SMEs' technology investment decision and its relatedness with finance. Within the referred study, sequence of making investment decision is claimed to be in a reverse order, the proposition that was claimed in line with research results. In other words, it is commonly contemplated that financial decision is subsequent to technology selection decision. However, based on Cobham's work, the order of decision making is primarily and firstly under the effect of financial resource criterion. Therefore, finance is deemed to have deterministic role both on the amount of technology investment, and on the nature of technology itself.

Common understanding in this area states that SMEs generally do not obtain sufficient amount of support from their financial counterparts. As a result, one of the fundamental resources for finance is left to be their own capital. Nevertheless, it is foreseeable that they have the right and capability of accessing credit market, though this volume is considered to be relatively low, compared to large ones.

Banks and investors have been deemed to be reluctant to service SMEs for a number of reasons. UNCTAD (2001) defines them as follows;

- *SMEs are regarded as high-risk borrowers due to insufficient assets and low capitalization, vulnerability to market fluctuations and high mortality rates.*
- *Information asymmetry arising from SMEs' lack of accounting records, inadequate financial statements or business plans make it difficult for creditors and investors to assess the creditworthiness of potential SME proposals.*
- *High administrative transaction costs of lending or investing small amounts do not make SME financing a profitable business.*

Bartzokas (2001) highlights three qualitative aspects for helping remove these obstacles, namely as agent specialization, the improvement of the process of learning, and finally the consolidation of the distinct agents and tools. Financial institutions may tend to have subjective risk perception. In this regard, data, information and knowledge as well as their effective man-

agement have a central role changing this perception. However, changing the perception is not easy and needs considerable amount of training effort among financial institutions' staff to achieve to a sufficient level of understanding on SMEs' own peculiar corporate behavior that distinguishes them with large corporations.

Having introduced some specific barriers creating adverse effects on financing SMEs, Jenkins (2002) reveals a counter argument basing her findings on a statistical research done among 220 banks spread through 60 countries. The study includes micro enterprise and small business financing activities. Putting the comment into other words, major finding contradicts with the general belief that commercial banks do not place themselves apart from micro sized and small business. According to the results, they do place themselves in this business segment. The stimulus under targeting is a market-oriented approach and defined as profitability and market diversification. Another finding is related with the age of financial institutions, which have appetite in this market segment. In this regard, it was found that newer banks tend to participate in micro and small business finance more than the older and often large institutions (Jenkins, 2002:2-7). To some extent, such a conclusion may justify the motive toward a fast penetration for profit oriented behavior caused by intense competition so as to cover the general overheads of banks and other institutions. In future, some financial institutions would be expected to be more selective in their target customer groups by the outcome out of "learning by doing" and "learning by experiencing".

Further, Jenkins's (2002) research helps depict the picture for non-lending financial institutions' tendency. It is expressed that so called non-lending banks would not rather lend to small and micro sized enterprises mainly because of higher administrative costs and interest rate controls. As for administration costs, banks and other financial institutions do prefer to take larger amount loans for the sake of decreasing the unit cost of per transaction.

Finally in Jenkins' study, overall conclusion is articulated as follows: *"Commercial banks worldwide are major sources for micro and small business finance. These banks are in this business mainly for commercial reasons. When banks do not make such loans, it is mainly due to financial and orga-*

nizational barriers rather than social and cultural barriers. It is found that newer banks tend to replace more emphasis on micro enterprise and small business lending than older and often larger institutions” (Jenkins, 2002:19).

5. Some Empirical Research in Turkish SMEs

Civan and Tekinkus (2002) published two empirical research papers that enlighten particularities reflected in analyzed group of SMEs. The first study covers SMEs functioning in the city of Gaziantep. A group of 350 SME is taken as analysis group from Gaziantep Industrail Cluster. For the sake of defining an SME, number of employees has been taken into account, which does not exceed 250 (Civan and Tekinkus, 2002:386).

The results are summarized below:

- a. Establishment status: within the framework stipulated by the Turkish commercial law, most of the organizations are established as limited (48 percent) and “anonim”¹ companies (43 percent) status. Following that two status, the highest proportion is in individual companies with 9 percent.
- b. Number of employees: The highest portion with 36 percent is the ones that employ between 11 to 50. Micro enterprises also compose would not be negligible size with 32 percent. Twenty two percent of the total employees work for the ones who have a workforce between 101 and 250.
- c. Professional management: Firms that contributed to the research do not employ professional managers, whereas 45 percent of the group does. In accordance with this consequence, it is possible to say that ownership and management right holds a tendency to be kept in one hand for almost nearly half of the companies.
- d. Educational background: Higher proportions of professional managers are university graduates. This group is consisted of nearly 78 per-

¹ To have an “anonim” company status, there are certain requirements stipulated in the Turkish Commercail Law. Generally; larger, corporate wise managed companies are at this status.

cent. Although it does not exactly correspond with university graduate level in Turkish norms, occupational high school graduates take place with nearly 7 percent. The picture brings the result, as most professional managers are university level graduates.

- e. Technology use: The biggest group applies semi-automatic machines in their production facilities. Full-automated machines have a stake with 38 percent, and computerized systems have 26 percent share in machine stock.
- f. Production method: Order based production is the most common type with 45 percent. Serial production comes second with 42 percent.
- g. Quality certificate: Thirty one percent holds ISO and Turkish standards, while 52 percent have not attempted to make production with quality standards.
- h. Capacity increase and financing: Seventy eight percent is in the aim of enhancing their capacity. Regarding the source of finance to increase the level of capacity, 48 percent declares that they plan to realize it with their own capital. For the same target, bank loans are considered as available with a portion of 24 percent from the total group. Lastly, leasing takes place with nearly 12 percent.
- i. Export capability: Research questions are so organized as to bring the grounds behind the insufficient export capability. The largest cited drawback is referred to financing with 33 percent. Subsequent to finance, cause is given to the lack of knowledge for international markets with merely 29 percent. Lack of necessary technology and qualified personnel in foreign trade transactions are cited with nearly 9 percent.

j. A relevant issue held as export is in international markets. In this regard, the research depicts causes that prevent SMEs to enter into global markets. The biggest stake for non-existence in these markets is defined as marketing problem with 36 percent. Then again, finance is cited with 31 percent. Close amount of reasoning is shared among production problems, R&D, technology, qualified workforce and others.

Akdis and Bayrak (2000) made a similar analysis as to the one referred above with the purpose of measuring the strength of SMEs against financial crises, besides having a general view on SME attitude. Basic difference is in the scope of geography. Though their study covers less number of SMEs - just 50 - geographical coverage is more widespread compared to Civan and Tekinkus. The study covers SMEs in the cities of Çorum, Gaziantep, Maraş, Kayseri and Denizli (Akdis and Bayrak, 2000:14).

Main findings are summarized below:

- a. Analysis reveals that management of SMEs is mostly composed of family member and their relatives.
- b. Regarding the credit use, 33 percent do use credit whereas 39 percent of SMEs do not, and further 26 percent apply for credit as long as a case of emergency is encountered. Fundamental reason for not using credit is expressed as cost or in other words high loan rates. Nearly 8 percent explained that they do not have appetite for traditional – Islamic - reasons.
- c. Looking at the short term financing sources, non-credit users endure their facilities by applying corporate profits into capital.

6. Solutions to Financing Barrier

After trying briefly to reveal innovation and its necessity for country level development, SMEs and their role in the same sense, importance of finance for innovation and technology, and finally before closing for conclusion, it would be beneficial to touch upon solution based measures on finance problem. There are several of measures from technical front to training of bank staff for attaining best servicing models to SMEs. In this regard, it is worth introducing the European Union's (EU) study for bringing clarification on such measures. The EU organizes annually held round tables among financial institutions and SME organizations, and SME representatives themselves. At the end of these meetings, reports are prepared to make the discussions public. The table below defines the measures discussed in the round table meeting held in the year 2000, and in the first column measures are mentioned, then how it is realized is expressed.

Table 1: Measures and application methods for creating an environment between banks and SMEs (EU, 2000:22)

Measures	How it is done?
Streamlining and simplifying the lending process	<ul style="list-style-type: none"> ∅ Lending based on personal qualities, such as private account performance, education, life style, skills etc. ∅ Increasing staff responsibility, leaving decisions within certain limits to SMEs ∅ Using automated assessment systems ∅ Abolishing bureaucracy, reducing hierarchy and the number of layers in the loan transaction process
Developing centers of competence within the bank	<ul style="list-style-type: none"> ∅ Standard product supply from centralized specialized units to SMEs including virtual banking ∅ Product supply from regional units to SMEs with complex requirements ∅ Product supply from local branch offices limited to service oriented SMEs receptive to cross selling
Cooperation with third parties	<p>Insourcing: Becoming a supermarket by selling products from different banks or by transacting part of another bank's loan process</p> <p>Outsourcing: Becoming a specialist in product development, leaving sales to others under private labels</p> <p>Combination: Using combined resources and know how to realize economies of scale or increase effectiveness e.g. launching informal capital funds</p> <p>Intermediation: bringing companies and potential business angels together</p>
Product innovation	<ul style="list-style-type: none"> ∅ Selling alternative and lower risk products such as corporate credit cards, leasing and factoring ∅ Direct securitization of loans through issuing asset backed bonds similar to the American model ∅ Raising risk taking funds for start ups by offering equity or subordinated loans

7. Conclusion

Having briefly introduced common problems dealing with financing SMEs, specifically banks in Turkey have to hold some attributes towards this part of commercial world. First of all, as the Turkish treasury has offered for a long period of time high returns over public deficit financing, namely T-bill and T-bonds, most of the banks have not tended their policy towards lending, particularly to that of SME market.

Credit system should be aligned in accordance with needs of SMEs' typical characteristics. In this regard, as suggested in much empirical and theoretical research, a highly efficient credit scoring system must be established, and applied.

For a bank, it is crucial to be within the reaching distance to SMEs. This conclusion certainly necessitates evenly distributed network within the boundaries of the country. Therefore, bank branch network and the technological infrastructure should strongly embrace the need of continuing service level. Apart from branch network, alternative distribution channels, particularly commercial Internet banking holds a high stake over servicing through new technologies. Besides Internet, as the concept of e-commerce is vastly enhancing its effect over businesses, the bank should invest in this specific technology as well.

In short, both cognitive and practical level analysis, a bank which targets SMEs segment, should align its mindset and organizational structure in line with the necessity of SMEs requirements and with that of international standards. Possessing a definite sophisticated, high qualified unit existing for SMEs market, always considering the market with a long-term vision, continually training the bank staff in lending and servicing, investing in advisory services, investing in technology are inevitable parts of meeting that markets' needs and requirements so as to contribute to the development of macro and firm level developments of Turkish economy.

Scientific and technological developments have opened new ways in perspectives to factory or large manufacturing models. Relations between production and employment have been changed, further; though volume of production is increased, increase in employment is not reflected in vol-

ume correspondingly. Technological developments have caused to raise new models. Number of innovations increased the time lag of an innovation to become a commercially profitable product or process has been shortened; and finally keeping market share has more depended upon the value of innovative capability of a firm.

Today, small, flexible, fast and agile firms are more able to sustain their existence against several market pressures. All these developments have opened eyes on small enterprises. These developments shall not be considered as a trendy or fashionistic view, rather small enterprises have brought up a new business model that inherits production, transportation and communication technologies' created network based organization, and thus having flexible, fast, responsive firm organizations (KOSGEB, 2000).

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