A Review of Small and Medium Sized Enterprises (SMEs) in Turkey[*]

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Abstract

Small and medium sized enterprises (SMEs) constitute a major part of the economies of both developed and developing countries. SMEs play a very important role in the Turkish economy as well. They make up 91.9 percent of all enterprises, represent 78 percent of all employment and constitute 55 percent of GDP and 50 percent of total investment. Definitely, supporting the SMEs can provide a sustainable and balanced economic growth. Their integral role within an economy has become a source of inspiration for several academicians to study SMEs from different perspectives. This paper aims to categorize and summarize these studies. The fields of categorization are "Economic Growth, Finance and Risk, Management, Innovation, Supports, Industries and Globalization and Internationalization". Information about the sources of data are also provided.

1 Introduction

Small and medium sized enterprises (SMEs) constitute a major part of the economies of both developed and developing countries. They contribute to economic growth by creating new job opportunities and supporting balanced economic and social development. Due to these important contributions, many countries are developing and implementing new policies that encourage establishing, expanding, developing and protecting SMEs.

Turkoglu (2002) indicates that the first realization of the importance of SMEs on economic growth of countries was during the 1930 crisis, however, after the 1970 petroleum crisis there was a real increase in the number of SMEs, which had a positive impact especially on regional development. The paper provides several reasons for this development. SMEs usually rely on labor intensive means of production, and hence do not need much capital. They can locate to rural areas and generate income in those areas. They create employment opportunities for unqualified labor, thus reduce migration to urban areas. According to Catal (2007) SMEs prevent regional differences, thereby contribute to significant regional development. Another study that illustraits the increasing importance of SMEs after the 1970s is authored by Ilhan (2006), which points to the socioeconomical and political transformation process starting in the 1970s as the main cause of this increase.

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SMEs play a very important role in the Turkish economy as well. They make up 91.9 percent of all enterprises, provide 78 percent of all employment and constitute 55 percent of GDP and 50 percent of total investment. Therefore, for Turkey, developing and implementing new policies targeting SMEs is critical. In this respect, academic studies surely have an influencial role. However, for Turkey, studies realizing the importance of SMEs for the economy started to appear after the 2000s. This was mainly due to the lack of data on SMEs. Since future studies need to rely on an understanding of what had been done in the past, this paper aims to build a review of the literature related to Turkish SMEs.

With this aim, we synthesized around 150 papers that came up in a search with the key words "SMEs and Turkey". Then, we categorized these papers depending on their common features. The resulting categorization constitutes the titles "Economic Growth, Finance and Risk, Management, Innovation, Supports, Industries and Globalization and Internationalization". Moreover, since future studies, especially econometric studies, require data, this paper provides information about the sources of data as well. After this introduction, the second part provides a brief overview of the existing literature, the third part gives information about the sources of data, and the final part of our paper ends with some concluding remarks.

2   Literature Review of SMEs

2.1   Economic Growth

Credit opportunities and energy are usually considered as two of the main factors for the growth of enterprises, which leads to the growth of countries. A considerable number of papers related to credit opportunities exist for Turkey; however, it should be noted that most of them do not concentrate on SMEs specifically but consider the situation for Turkey as a whole. Examples of these papers are Kar and Pentecost (2000), Onur (2012), Yapraklı (2007), Altunç (2008), Kaygusuz (2008), and Türedi and Berber (2008). However, the table (1) summarizes the situation for SMEs. As evident from the table, both papers are about the causal relationship between SME credits and economic growth, but the results are contradictory.

Table 1: Causality Between SME Credits & Economic Growth

Author	Period	Methodology	Direction of Causal Relationship
Tutar and Ünlüleblebici (2014)	2006 - 2011	Granger Causality	SME Credits → Economic Growth
Ceylan and Durkaya (2010)	1998 - 2008	Granger & VECM	Economic Growth → SME Credits

Regarding the energy sector, the study conducted by Haykır Hobikoğlu and Hacıoğlu Deniz (2012) is noteworthy. In their survey study the authors highlight the lack of awareness of the role of SMEs in alternative energy sources. In the literature, usually energy and environment are considered together so at this point the thesis of Kaya (2005) can be mentioned. The thesis, firstly, gives some information about Integrated Pollution Prevention and Control (IPPC), which is an initiative of the European Commission to protect the environment. The level of implementation of IPPC varies between members of European Union and its implementation is in its early stages in Turkey, as a candidate. The thesis investigates the situation for the textile sector in Turkey. This sector is chosen because of the dominance of SMEs in this sector.

One other paper worthwhile to mention regarding the role of SMEs in economic growth in Turkey is written by Wright *et al.* (2012), which focuses on the topic of "competitive intelligence". Competitive intelligence is defined by Rouach and Santi (2001, p. 553) in the following way:

   "... art of collecting, processing and storing information to be made available to people at all levels of the firm to help shape its future and protect it against current competitive

threat: it should be legal and respect codes of ethics; it involves a transfer of knowledge from the environment to the organization within established rules."

Wright *et al.* (2012) is an important empirical study conducted within the SME sector in the city of Istanbul to measure competitive intelligence. The paper identifies areas where improvements can be made to reach an ideal situation that can provide a competitive advantage for the SMEs surveyed. This is important because access to competitive intelligence is cardinal for a company's effort to grow faster.

Ozar *et al.* (2008) also authored another paper that provides significant contributions to the literature observing the impact of SMEs on economic growth. In fact, the authors do not focus on SMEs, but rather focus on a neglected group of enterprises in Turkey, namely, Micro and Small Enterprises (MSEs). The paper reports the outcomes of a survey that was conducted using a sample of 4,776 urban enterprises where the number of employees was between 1 and 49. The questions were designed to ensure that the impacts of selected factors on the growth of MSEs could be accurately analyzed. It is important to note that the timing of the survey, which is July to September of 2001, is crucial since in that year there was a financial crisis in Turkey. Therefore, outcomes also provide information about the impacts of crises.

2.2   Finance and Risk

Finance plays a key role for SMEs in carrying on their activities. The topic can be investigated from two sides; one of them is the firm side and the other one is the funding side. To the best knowledge of the authors, in the literature, there are only five papers considering the firm side, which mainly focus on the capital structure of SMEs in Turkey. These are: Müslümov (2002), Ceylan and Korkmaz (2002), Türköz and Kösekahyaoğlu (2008), Cakova and Önder (2011), and Guzeldere and Sarioglu (2014). All of the studies rely on micro data.

Guzeldere and Sarioglu (2014) tries to discriminate between the different capital structures of SMEs, including micro enterprises, in terms of their sizes and their respective sectors. For this purpose, the study analyzes the differences between the tools of the capital structures by using the ANOVA methodology. The paper investigates 816 enterprises operating in Istanbul. According to the results, there is a significant difference in the capital structures of micro enterprises and SMEs. Micro enterprises depend more on their own capital compared to SMEs. However, there is no significant difference across different sectors.

Cakova and Önder (2011) is a master's thesis that investigates the factors affecting capital structures in the manufacturing sector. It estimates a two way fixed effects model to explain the total debt, short term debt and long term debt ratios of SMEs. The dataset contains 44,029 firm-year observations and covers 14 sub-sectors of manufacturing over a period of eleven year between 1998 and 2008. The data used in the thesis is obtained from the Central Bank of the Republic of Turkey (CBRT) through confidential agreements. It tests the predictions of trade-off theory[1] and pecking order theory[2] . The

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[1]Myers (1984) states that according to the trade-off theory, firms have their target debt levels and make their capital structure decisions depending on these levels. Bradley et al. (1984) summarizes the main predictions of trade-off theory as follows:

1. Optimal debt level decreases with increasing cost of financial distress.
2. Optimal debt level decreases with increasing non-debt tax shields.
3. Optimal debt level increases with increasing personal tax rate on equity income.
4. At the optimal debt level, an increase in the marginal bondholder tax rate decreases the optimal debt level.

[2]Cakova and Önder (2011) states that "The main idea behind the pecking order theory is that, only the owner of the company knows the true value of the firm and its growth opportunities. However, an outsider can only guess these values. Therefore, people react suspiciously when owner of a firm tries to sell equity."

analysis is separated for small and medium firms. Based on the findings, the study concludes that capital structure decisions of Turkish SMEs are in line with the pecking order theory. Firms seem to decrease their average debt ratios as economic conditions improve. The results of the survey also indicate that firms give priority to short term debt while financing their growth activities. Although there significant industry differences exist, the characteristics of firms are important in explaining the capital structures of Turkish SMEs. In the light of these findings, policy makers and lenders should take into consideration the sectors and the level of economic growth when developing new policies for SMEs. Türköz and Kösekahyaoğlu (2008) is also a master's thesis that gives a general situation for Turkey, with special emphasis on the region of Isparta.

Benefits that can be obtained from the capital markets can be considered as one of the important components of capital structure. For this reason, the work of Ceylan and Korkmaz (2002) which evaluates the positions of SMEs that operate in Bursa region about offering existing shares to public, has a special place in the literature. The survey focuses on 43 companies in the Auto Supplier Industry and includes 14 questions related to SMEs public offerings. The results of the survey show that the majority of owners or the top managers of these SMEs feel that they are not ready to open their company to public due to lack a of information about public offerings and understanding of the benefit of capital markets.

Müslümov (2002) also examines the importance of capital markets for SMEs. The importance of Müslümov's work stems from his comparison of SMEs and large firms operating in the production industry. His sample includes 179 companies where only 32 are SMEs and the rest are large firms. The shares of these firms are actively traded in the Istanbul Stock Exchange (ISE). The research findings indicate that the ISE is still not an alternative source of finance for SMEs in Turkey. SMEs offer only a small percentage of their shares to the capital markets.

On the other hand, from the funding side, it is important to understand how funding institutions make decisions to finance SME activities. Leaving the firm specific risk analysis aside, working at a macro level, there are two papers regarding this issue: one of them is Jenkins *et al.* (2014) and the other one is Sahin *et al.* (2014).

Jenkins *et al.* (2014) tries to find out the relationship between SME credit growth and the changing macroeconomic environment by using multiple regression analysis. The period of analysis is 2007 - 2013, and data are obtained from World Bank, Organization for Economic Cooperation and Development (OECD), Banks Association of Turkey, and Banking Regulation and Supervision Agency (BRSA). The macroeconomic factors included in the analysis are GDP growth rate, inflation rate, percentage change in public debt and percentage change in bank concentration. The findings indicate that an increase in GDP growth rate and increasing competition in the Turkish banking sector positively affect availability of banking sector credit to SMEs. Moreover, mitigating the high inflation rate and reducing government domestic borrowings also significantly help expand SME bank credits.

On the other hand, Sahin *et al.* (2014) look at the same issue from another perspective, which is the ownership structure of banks. The banks can have a structure such that the share of foreign ownership can be higher. The paper asks the question whether this high share increases the credits given to SMEs or not. To answer this question, they use impulse response functions and variance decomposition analysis for the period 2006 - 2013, and reach the conclusion that if the share of foreigners is higher in a bank, then credit given to SMEs are lower, but the effect is seen after six months.

Derelioğlu and Gürgen (2011) proclaim that due to an increase in credit volume in real markets and frequent economic fluctuations, conducting credit risk analysis incresingly more important. This analysis aims to decrease future losses where the term used for future losses is credit risk. This is done by estimating the potential risk and eliminating the new credit proposal if the risk is high. Derelioğlu and Gürgen (2011) also compare different methodology in the literature while analyzing credit risk for SMEs in Turkey. In the literature, various techniques are proposed for credit risk analysis like neural

networks, support vector machines, logistic regression and k-Nearest Neighbor algorithms. The paper proposes a knowledge discovery method that uses multilayer perception based neural rule extraction approach for credit risk analysis of SMEs in Turkey.

Unfortunately, only a limited number of papers related to risk analysis for SMEs exist despite the importance of the topic. The number is even less for SMEs in Turkey. In fact, to the limits of the authors' knowledge, only four papers related to this topic exist: which are Aslan and Elci (2009), Gül *et al.* (2010), Caner and Karan (2012) and Sahin *et al.* (2014).

Caner and Karan (2012) examines the creditworthiness of SMEs that receive financial and non-financial incentives from the Small and Medium Industry Development Organization (KOSGEB) in Turkey. They examine a survey conducted by KOSGEB by using a logit model to estimate the riskiness of SMEs and reach the conclusion that it is unlikely for efficient and internationally competitive SMEs to default. This finding is important when combined with the study of Aslan and Elçi (2009), asserting the importance of SMEs that are integral to Turkey's economy, to prepare for international competition in the period of acceptance to CE (Conformité Européenne) and conformance to Basel II. Applying Basel II standards can give the SMEs an opportunity to discipline their companies financially and administratively so that they will become more efficient and internationally competitive. Therefore, the findings of Caner and Karan (2012) imply that applying Basel II standards would reduce the possibility of default for SMEs in Turkey.

The outcomes of the survey conducted by Oztürk *et al.* (2010) for the Middle Anatolia Region about the awareness of SMEs regarding the Basel II shows that most SMEs do not have enough information about Basel II. Moreover, as stated by Gül *et al.* (2010) SMEs are not aware of the importance of risk as well. Based on the outcomes of a survey conducted in the Karaman Industrial Zone, 46.4 percent of the SMEs consider uncertainty during medium and long term planning. Only 32.1 percent believes that uncertainty is the most important problem. 46.4 percent of them diminish their investments if they believe that there is uncertainty in the market.

Two informative papers about the Basel regulations and SMEs in Turkey are Celikdemir (2011) and Kendirli (2010). Celikdemir (2011) has three parts. In the first part, information related to SMEs in Turkey is summarized. In the second part, importance of SMEs for the economy of Turkey is analysed. Finally, in the third part, the effect of Basel regulations on SMEs are investigated. Kendirli (2010) also investigates the effects of Basel regulations on the SMEs.

As stated above, Sahin *et al.* (2014) analyses the effect of foreign-owned shares in banks on credits given to SMEs and concludes that if foreign-owned shares within a bank increase, the bank becomes more sensitive to information and focuses on less risky and high quality customers. This ends up with less availability of credit for SMEs. This conclusion could be an indicator that banks with higher portion of foreign-owned shares are using credit risk analysis more efficiently.

In addition to these discussions, it is important to mention Celikkol *et al.* (2008) given their special emphasis on the role of banks for the financial needs of SMEs and mentions of newly established banks referred to as SME Banks.

2.3 Management

The literature related to the management of SMEs is quite rich and the topic can be investigated from many different aspects like the definition of entrepreneurship and its development in Turkey, problems of SMEs and suggested solutions, human resource management and knowledge management practices.

Related to the definition of entrepreneurship and its development in Turkey, there are six papers. These are Pişkinsüt (2011), Yıldız and Alp (2012), Ozer and Tınaztepe (2014), Penpece (2014), Sag and Bilsel (2014) and Sencay (2015).

Pişkinsüt (2011) has three parts. The first part gives information about the meaning of entrepreneurship concept and the basic features of entrepreneurs in SMEs. Parallel to this paper, Sencay

(2015) is a regional paper for Gaziantep evaluating the development of entrepreneurship along with its requirements. Second part of Pişkinsüt (2011) summarizes the history of entrepreneurship in Turkey, starting from the period of Ottoman Empire. Another paper that aims to analyze the importance of entrepreneurship historically is Yıldız and Alp (2012). In terms of social changes and policy implications, Sag and Bilsel (2014) can also be considered as a historical paper about the development of entrepreneurships and SMEs. Instead of chronicling the development of SMEs, Nurrachmi *et al.* (2012) explore strategy and future perspectives in short, mid, and long term. Finally, to the best knowledge of the authors, one last paper related to the history of SMEs in Turkey, is Ozdemir *et al.* (2007). It is the first part of the paper where this history takes place. In the third part of Pişkinsüt (2011) the situation of SMEs in Turkey is described in terms of total investment, total employment, value added, and total exports.

Penpece (2014) is a survey paper that tries to evaluate the relationship between the entrepreneurial marketing aspects and socio demographic features of potential entrepreneurs in Turkey. The data are obtained from the survey questionnaire by using a face-to-face interview technique. The findings indicate that there is a relationship between gender and innovation-orientation. Individuals' educational status also makes a significant difference in the aspects of risk taking-orientation, innovation-orientation, resource leveraging, proactive-orientation, customer intensity, and opportunity-driven. However, from the perspective of age and marital status, there are no significant differences across the dimensions of entrepreneurial marketing.

Another survey paper, which may be considered as relevant to Penpece (2014), isOzer and Tınaztepe (2014). The survey aims to find out the relationship between different leadership styles and performance of SMEs. One problem with the survey is its singular focus on one export firm in Turkey, with responses from 215 white-colored workers from managerial and non-managerial positions in the firm. Hence, the results obtained could be firm specific. The paper explores three leadership styles, which are transformational, transactional, and paternalistic, and analyzes their relation with performance under two hypotheses. The first hypothesis is stated as "there is a relationship between strategic leadership styles and firm performance" and the second hypothesis is stated as "compared to other leadership styles, transformational leadership has a stronger positive effect on firm performance". The first hypothesis of the study is partially supported since a significant relationship between leadership style and performance was only found for transformational and paternalistic leadership styles. The second hypothesis is fully supported.

Problems of SMEs and suggested solutions can be considered as a second topic to be investigated. There are five papers related to this topic which are Cakıcı and Ozer (2008), Cetiner and Bayulgen (2010), Kaya and Alpkan (2012), Bayrakdaroğlu and Şan (2014) and Karadag (2015).

Among the four papers related to this issue Karadag (2015) is a more general one considering the problems under the names as innovation and technology, financial limitations, internationalization issues, entrepreneurship, start up costs and bureaucratic problems, green technologies, labor and information and communication technologies. Solutions to these problems are not that obvious in the paper.

In comparison, though more specific and narrower in focus, Kaya and Alpkan (2012) try to supplement the problems with their respective solutions. The study especially focuses on management and financial requirements. As for the most important problem in the management of SMEs, Kaya and Alpkan (2012) highlight the problem of non-professionalized management, which is a result of the fact that business ownership and management in SMEs are implemented by the same person and the business owner is the only authorized person in the decision making process. The second important problem arises during the establishment process. Usually, sufficient capital does not exist and the possible position in the market place is not clear. Kaya and Alpkan (2012) states that this problem can be seen as minor at the beginning but it becomes a major one as time goes on. Kaya and Alpkan (2012) identify the lack of periodical plans as the third most important problem for SMEs. As a result

of this shortcoming, SMEs cannot make any estimations or forecasts about their income resources or prepare for any potential problems that they may face. As for human resources, Kaya and Alpkan (2012) states that in SMEs each staff can carry out every activity, and there is no hierarchical structure. Moreover, staff circulation is high in SMEs, and this is the fourth most important problem which causes significant interruptions to the business. There are also financial problems, and in this context, the main problem is lack of information. Finally, Kaya and Alpkan (2012) states that in most cases, SMEs are unaware of the problems that they may face due to the economic environment, especially due to inflation and interest rates.

As a the solution to the problems mentioned above, Kaya and Alpkan (2012) stress the importance of consultancy. Applications in this direction must increase. Moreover, SMEs should lead their workers to attend training programs. As fort he composition of their workers, family members and friends should not be chosen, but professional personnel should be preferred. In fact this solution can be thought of as a suggestion for increased institutionalization, and there is a nice survey by Cakıcı and Ozer (2008) for the Mersin region that tries to measure the awareness of SME managers on the importance of institutionalization. Results of the survey show that managers are not aware of the importance at a sufficient level. Another paper related to the importance of institutionalization is Cetiner and Bayulgen (2010). The paper reports the results of a survey conducted with small sized construction firms, and the findings of the survey reveal that these firms are managed mostly by a traditional rather than modern management understanding. The paper proposes government education programs as a solution to this problem. Kaya and Alpkan (2012) suggest the increase of contacts with other firms as another solution. For enhanced financial information and understanding of the economic environment, SMEs are advised to establish finance departments, and as suggested by Bayrakdaroğlu and Şan (2014), implement financial training programs.

Human resource management is another important aspect to be investigated, and this is done in four important papers, which are Cetiner and Bayulgen (2010), Günhan (2011), Karartı (2014), and Sengül *et al.* (2015). In addition to these, Apak and Atay (2014) investigate the knowledge management practices of SMEs in Turkey and the Balkans. Due to ever increasing relationships between Turkish companies and foreign companies, the importance of human resource management is paramount as Turkish companies need to be at the same level or even better than global levels in terms of human resources in order to compete successfully.

Karartı (2014), by giving lots of references to several different papers, firstly states that SMEs are quite different than large firms in terms of staffing, training, and performance-management methods. For example, SMEs try to solve their employment problems inside their organizations rather than hiring through employment agencies. In terms of training, they prefer on-the-job training activities rather than formal training. The paper by Cetinel *et al.* (2008) supports the above stated arguments for the tourism sector in Turkey. Secondly, Karartı (2014) investigates the specific characteristics of Turkish culture and compares these characteristics with several countries by referring to papers that conduct a similar analysis for different countries. Thirdly, Karartı (2014) summarizes the development process of human resource departments and states that this development increased after an extended relationship with the world. On this point, the study provides several references to papers that compare Turkey and several different countries[3]. All of these papers report increasing convergence towards the rest of the world. Lastly, in the paper, Karartı (2014) gives information about the activities of these developing human resource departments in terms of job analysis, selection, performance, training, compensation, and evaluation.

Günhan (2011) is an other interesting paper because it conducts a survey questionnaire to two hundred and thirty two architects participating in continuing education courses in four of the largest

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[3]Emre (1998), Üsdiken (1996), Sözer (2004), Cranfield Network on Strategic International Human Resource Management-CRANET-G 1999?2000 Survey and; Oya Ozcelik and Aydınlı (2006)

cities in Turkey. Therefore, the survey has a special perspective that reflects the ideas of human resource professionals who are actively in the process of education.

Information systems are used to improve the quality of decisions to be made. Sengül *et al.* (2015) develops an information system for human resources. By using this information system, employee supervision, operational processing, document sharing and reporting, and automation of the daily operations functions can be performed more efficiently.

In addition to the papers mentioned above, Apak and Atay (2014) investigate knowledge management practices in Turkey and the Balkans. Through a SWOT analysis they aim to question the possibility of trade and economic cooperation between Turkey and Balkan countries. Findings show that in order to meet market demands in the present global industrial world, SMEs must be flexible enough to respond rapidly to product differentiation demand.

2.4 Innovation

The first study that should be mentioned about innovation is Napier *et al.* (2004) since it is a report prepared in order to serve as a basis for a discussion about Turkish private sector organisations. This report suggests the key priorities for action to support innovation in Turkey and identifies the initiatives where these organisations can help catalyze changes. It states that areas such as R&D investment, the knowledge intensity of manufacturing and trade, capital market development and internationalisation of the private sector are areas to be prioritized. Moreover, the suggested activities to reach these priorities, given in the report, are analysing the needs for SME financing, organising opportunities for entrepreneurs and investors, sponsoring and participating in entrepreneurship training/education programmes, determining priority areas for improvement in the business environment, providing more up-to-date and relevant statistics in order to benchmark, track progress and evaluate various initiatives, raising awareness of enterprise development programmes, and the importance of innovation for economic growth and setting guidelines and highlighting "showcase examples" of entrepreneurship, good business practice, growing regional clusters, and international linkages.

After this report there are three important surveys: Armatlı-Köroğlu (2005), Tektas *et al.* (2008), and Bascavusoglu-Moreau and Colakoglu (2013). All three surveys investigate the innovation capacities of the SMEs, although from different perspectives. In fact, Armatlı-Köroğlu (2005) and Tektaş et al. (2008) are more restrictive compared to Bascavusoglu-Moreau and Colakoglu (2013) since these surveys are conducted in limited areas. In comparison Armatlı-Köroğlu (2005) covers the cities Ankara, Bursa, and Denizli, and Tektaş et al. (2008) samples SMEs located in an Organized Industrial Zone in Istanbul. Moreover, one other limitation of Tektaş et al. (2008) is that the survey is conducted only for manufacturing firms.

The aim of the survey in Armatlı-Köroğlu (2005) is to find out the dependency of innovation capacity on innovation indicators and firm networks. In regional development literature, the following factors are considered as innovation indicators: number of R&D workers, R&D expenditure, taking quality certificate and patent, and share of SME employment in total work force. Armatlı-Köroğlu (2005) tries to determine the effects of these indicators on innovation capacityin their survey. Most of these innovation indicators are endogenous factors. Due to the structure of the workforce and limited financial sources, however, these endogenous factors are inadequate for most SMEs. Therefore, Armatlı-Köroğlu (2005) states that for the success of SMEs, the ability to use external networks and to learn from these external networks may be a better way.

Tektaş et al. (2008) measures the innovation capabilities, to find out whether the information and communication technology (computer based production systems, internet access, and website ownership) adoption capacity enhances innovation utilization in SMEs. The findings of the research show that SMEs with higher information and communication technology adoption capabilities benefit from this by both increasing their exports and production technology.

Bascavusoglu-Moreau and Colakoglu (2013) is a more recent and more general survey done to explore the determinants of innovative capabilities of SMEs in Turkey. 45,000 questionnaires are collected from the SMEs. The questions are prepared in order to determine the impacts of recent changes in SME policies in Turkey on innovative capabilities of firms from three different perspectives; innovation efforts, innovation decisions, and innovative intensities. The two main changes in SME policies are related to financial support, consultancy, and technological assistance. The survey discovers that all firms seemed to benefit from financial support, but only less innovative firms take full advantage of the advisory services. In fact, this result conflicts with some of the results obtained for Latin American countries. Peres and Stumpo (2000) concluded that changes in the public policy are not effective for most of the characteristics of the SMEs, and therefore, policies should not be considered as important factors. This is an invalid conclusion for the case of Turkey.

Issues related to R&D are also important for innovation. Regarding this, Ozcelik and Taymaz (2004) and Turkoglu and Çelikkaya (2011) can be considered as two influential papers that both analyse the relationship between R&D subsidies and export performance of enterprises.

Ozcelik and Taymaz (2004) is a working paper on the Turkish manufacturing sector. The study tries to answer the question "Does Innovativeness Matter for International Competitiveness in Developing Countries?" The data set of the study come from the Innovation Survey that was conducted for the first time by the State Institute of Statistics in 1998. The survey covered the innovation activities of firms for the period 1995-97 by adopting a questionnaire compatible with the Community Innovation Survey of the European Union. It used the concept of "innovation" as defined in the Oslo Manual. A sample of about 4000 firms, stratified by size and industry category, were asked to complete the questionnaire. The response rate was almost 55 percent. The conclusion reached in the paper is that innovation and R&D activities are vital for the international competitiveness of Turkish manufacturing firms. Moreover, Tobit models used in the paper demonstrate causality from technology-related factors on export performance for manufacturing firms.

Turkoglu and Çelikkaya (2011) is a less expansive study of the relationship between R&D subsidies for SMEs and share of exports in production, focusing on the Gebze Organized Industrial Zone. Turkoglu and Çelikkaya (2011) use OLS regression analysis. The data come from the survey obtained from 126 enterprises. It concludes that R&D support to SMEs will increase the share of exports in production.

Türker and İnel (2013) reinforce the importance of R&D expenditures from another perspective, namely, value added, by comparing the contribution of SMEs to total value added, which is 57 percent. This rate is quite low compared with OECD countries. The paper gives lower level of R&D expenditures as one of the important factors for this situation.

Finally, regarding entrepreneurship, Isik (2005) analyses approaches for strengthening SMEs in Turkey and encouraging entrepreneurship. This analysis is done by considering the current EU policies as well. The weakness of the thesis is that most of the results are based on the case study conducted on SMEs only in Adana.

2.5   Supports

For developing countries, the support of SMEs by appropriate programs is crucial. The Small and Medium Enterprises Development Organization (KOSGEB) is the main institution in Turkey that provides support programs. Müftüoğlu (2009) is an important paper since it summarizes the history of these support programs starting from 1990. Moreover, it evaluates them and gives some suggestions for improvement as well. In addition to Müftüoğlu (2009) four other papers and one report related to support programs for SMEs in Turkey are noteworthy: the papers of Ozdemir *et al.* (2007), Celik *et al.* (2013), Ulusoy and Akarsu (2012), and Gülmez and Yalman (2010), and the report by Elci (2011). Moreover, the papers of Ozcelik and Taymaz (2004), and Turkoglu and Çelikkaya (2011), mentioned

in Section 2.4 for innovation, relate R&D supports to innovation.

Ozdemir *et al.* (2007), mentioned in Section 2.3 on the history of SMEs, should also be mentioned in this section since it provides a detailed description of different types of support programs that are available in Turkey for SMEs.

Celik *et al.* (2013) investigate the success of general support programs that KOSGEB provides in order to assist SMEs for the years 2010 and 2011, using hierarchical clustering analysis. The results of the analyses suggest that there are two or three clusters of sectors in Turkey for both years. Therefore, in order to be more efficient KOSGEB might benefit from considering the similarities between these sectors when designing general support programs.

Ulusoy and Akarsu (2012) state that if support programs for SMEs increase, employment will also increase. Gülmez and Yalman (2010) validate this statement for the city of Sivas in a survey gathering data from 38 SME managers via face to face interviews. In addition to employment, effects of support programs on production quantity of companies, product diversity, technology, and profitability are also analysed.

Elci (2011) is a report prepared for the OECD on the OSTIM Organized Industrial Zone. The report focuses on the training programs provided by KOSGEB, and discovers that the majority of SMEs in the region do not confer the needed importance to training and skills development programs. Still, companies have a special interest in organizational health and safety and job-specific technical training. Green skills, however, receive the least attention from SMEs. The report explains the lack of interest in training programs with the lack of capability of SMEs to assess the outcomes of training.

2.6 Industries

There are some papers that are specific to certain industries. Among them Aksu *et al.* (2011), Erdem *et al.* (2010) and KKorkut *et al.* (2010) investigate the forest products and furniture industry and Taymaz (2001) investigates the manufacturing industry.

Both Erdem *et al.* (2010) and Korkut *et al.* (2010) report the outcomes of the survey conducted with 43 SMEs in the region of Düzce. While Erdem *et al.* (2010) report the outcomes for problems related to sales and marketing, Korkut *et al.* (2010) consider source of problems related to production, capacity usage, machine park, and technology. The basis of these problems is given as insufficient finance. Aksu *et al.* (2011) differs from the previous two papers since it studies the situation for the industry considering the whole country and tries to offer solutions to the problems, analyse the competition opportunities, and shed light for future studies.

Taymaz (2001) analyses the role of SMEs in Turkish manifacturing industries from three different perspectives. Firstly, it summarizes the theories that explain the new role of SMEs. Secondly, the changes in the share of SMEs in Turkish manufacturing industries at the ISIC 4-digit level are summarized. Finally, the industry is considered from the perspective of employment generation.

2.7 Globalization and Internationalization

The issue of globalization started to be increasingly popular in terms of establishing, expanding, developing, and protecting SMEs. However, to the best knowledge of the authors, in the literature, there is only one paper regarding the relationship between globalization and SMEs in Turkey.

The aforementioned paper belongs to Aras and Müslümov (2002), and it investigates the issue in three steps. In the first part, it states the advantages and disadvantages of SMEs in the process of globalization, analyzing their basic problems and success factors. The second part investigates the financial problems of SMEs by comparing the structure of finance and cost of finance for SMEs by large enterprises in Istanbul Stock Exchange. Finally, in the third part, the paper shares a strategy to increase their effectiveness and efficiency.

Aras and Müslümov (2002) states that the results of these three part analysis show that SMEs should shift from low value-added production to products of critical importance, and this can be enabled by rehabilitation works and improvements in management and technology. Moreover, to resolve financial constraints, SMEs should search for alternative funding mechanisms.

A related term to globalization is internationalization, which is a vague term that is described differently in several papers: among them Altıntaş *et al.* (2006) define internationalization as a process that refers mainly to export behavior, in the broadest sense.

Therefore, in fact, both the concepts of globalization and internationalization are related to the trade patterns of countries. However, although exporting is seen to be a major factor in the economy and an important ingredient in the growth of many firms, mostly SMEs (Albaum and Duerr, 2008), SMEs are not always capable of competing against larger firms. SMEs are more likely to fail when expanding their market. The main problem is the burden of costs while entering new or expanding into existing markets (Ilgün and Muratovic, 2013).

In the literature, there are four papers related to internationalization and SMEs in Turkey: Altıntaş and Ozdemir (2006), Altıntaş *et al.* (2006), Ilgün and Muratovic (2013), and Yener *et al.* (2014). With the exception of Yener *et al.* (2014), all of these articles depend on the outcomes of surveys, but Ilgün and Muratovic (2013) also use data gathered from papers and international reports. Yener *et al.* (2014) rely on personal interviews and the methodology of ethnographic study.

The work of Altintaş and Ozdemir (2006) is important, because it tries to understand the mechanisms of internationalization for Turkey by considering the speed of internationalization, the preferred internationalization model, and the degree of internationalization. Speed of internationalization is defined as the difference of the time between the date of a firm's establishment and the first time exportation starts. Three internationalization models are defined in the paper: the Uppsala Model, the Innovative Model, and the Network Model. Degree of internationalization is calculated by combining the methodologies of Sullivan (1994) and De Clercq *et al.* (2005). In order to gather the necessary inputs for these three criteria, Altıntaş and Ozdemir (2006) use a web based questionnaire, in which 137 Turkish SMEs participate. According to the findings of their study; enterprises' internationalization speed is on average 6.76 years, and they mostly choose the Network Model, at a rate of 50.75 percent. The degree of internationalization is 1.622 for Turkish SMEs, and depending on the calculation methodology, the degree can range between 0 and 5.

Depending on the survey outcome of Altıntaş and Ozdemir (2006), if the Network Model is mostly applied by SMEs, then the concept of trust becomes important because one should trust the information provided through the network. Sengün and Önder (2011) consider two types of trust, named as "goodwill trust" and "competence trust". The empirical study uses data collected from 158 furniture manufacturers in an industrial district called Siteler in Ankara. Findings indicate that whereas goodwill trust has a positive main effect on inter-firm learning, competence trust does not.

The Network Model, which is used mostly for internationalization also brings into mind the possibility of e-commerce. A survey conducted on 204 SMEs in Altıntaş *et al.* (2006) questions this possibility. The paper tries to explain the adoption intensities of the SMEs by four grouped barriers within an econometric analysis using structural equation modelling. The barriers are cultural adoption, technological adoption, market maturity, and duration attribute. Technological adoption and duration attribute are found to be the most significant factors affecting adoption intensities.

A more recent paper than Altıntaş and Ozdemir (2006) concerning the internationalization mechanism of SMEs in Turkey is that by Yener *et al.* (2014), which considers the outcomes of personal interviews and an ethnographic study. Yener *et al.* (2014) obtain ethnographic data after a 15 months period to show the challenges the sample firm faces during its internationalization process. These challenges can be summarized as lack of managerial commitment to internationalization and non-domestic markets, lack of ownership of marketed products, lack of knowledge on marketing and fostering networks on the international stage, lack of trust and cooperation in the firm?s own network, and lack of

trust and building insider ship with new networks in foreign markets.

Finally, in terms of context, a slightly different paper belongs to Ilgün and Muratovic (2013), which concentrates on the export capabilities of SMEs in Turkey. For this purpose, the paper uses the outcomes of a conducted survey and data gathered from papers and international reports. The survey has five major parts; demographics, decisions firms have to take when entering new markets, trade barriers, risks, and assistance. The outcomes show that 59 percent of the respondents are in the manufacturing sector. Of the exported goods, 41 percent are capital intensive goods, 37 percent are service goods and 22 percent are consumer goods. 45 percent of the respondents think that there are major barriers to trade, and 65 percent believe that the level of exchange rate risk is extreme or somewhat risky.

At this point, it is important to mention cloud computing as well since it serves to improve the competitiveness of SMEs in the international area as well. Helvacioglu-Kuyucu (2011) contributes to the literature as being one of the first papers on policy-making for cloud computing. Another paper by Hiziroglu and Cebeci (2013) proposes a conceptual model to provide retail SMEs with a cloud-based open platform.

Since Turkey has a very close relationship with European Union (EU) member countries, when analysing the concept of globalization for Turkey, it is important to give special emphasis to the EU. For this reason, one can note several papers related to the relationship of EU and Turkey in general terms, but very few papers about the role of SMEs on EU-Turkey relationships exist. To the best knowledge of the authors, there are only three papers on this topic by Karatas and Helvacioglu (2008), Keskin and Şentürk (2010), and Cil (2014).

Cil (2014) investigates the views of SMEs about Turkey?s EU accession by conducting a questionnaire with 146 manufacturing SMEs in Adana, Gaziantep, and Istanbul, which are three of the high-volume cities of international trade in Turkey with a share of 50 percent in total exports. This is important, because their views can give some idea about whether their internationalization activities would be affected by a possible EU membership or not. Methodologically, frequency distribution analysis and ANOVA are used. Results demonstrate that SMEs are hesitant about EU membership, and the reason for this seems to be inadequate knowledge about the EU. Hence the authors recommend carrying out some serious information and training activities for SMEs to educate them about the after-effects of EU membership. Keskin and Şentürk (2010) compare the positions of SMEs in Turkey and Albania since both countries are in the process of being full members of the European Union.

Karatas and Helvacioglu (2008) analyze the microcredit facilities available for SMEs in the EU and discuss the feasibility of such facilities in Turkey. For this aim, the study uses both primary and secondary data collected from previous and ongoing microcredit programs in Turkey. Based on this analysis, the paper provides some concluding strategies for Turkey: Firstly, it states that there is a need for more research that focuses on the identification of the major policy areas to be supported by microcredit programs. At the moment there is only information on the microcredit projects from primary data sources obtained by the researchers? individual attempts. Therefore, there is a real need for a database of microcredit schemes for research to improve. Secondly, the paper suggests analyzing the best practices of EU in order to achieve efficient and sustainable adaptation of EU microcredit policies. The final suggestion is for policy makers: namely, that they should design a dynamic contemporary legal framework to address the current environment and also to identify potentials. This would provide tranparency on the requirements of the microfinance system in Turkey.

In fact the discussions above lead to another important discussion: there should be effective communication among corporations in different countries. Of course, an internationally diversified audience of shareholders, creditors, and other stakeholders exist, but the reporting of their financial position, activities, and future goals should be identical for comparability (Murphy, 1999). International comparability in financial reporting can be possible with the adoption of globally accepted standards not only by listed entities, but also by SMEs as well. For this purpose, firstly, International Financial Re-

porting Standards (IFRS) and then International Accounting Standards Board (IASB) in July 2009 were established (Kılıç *et al.*, 2014). The website of IASB announces that more than one hundred countries now require or permit the use of IFRSs or are converging with the IASB's standards[4].

When literature about Turkey for this topic is investigated six papers can be noted: Gürak (2004), Atik *et al.* (2010), Civan *et al.* (2010), Arsoy and Bora (2012), Bozdemir (2014), and (Kılıç *et al.*, 2014). Among these Arsoy and Bora (2012) and (Kılıç *et al.*, 2014) consider the issue from the perspective of accounting professionals, but Atik *et al.* (2010) is based more on SMEs themselves. Civan, Körpi and Buyuran (2010) and Bozdemir (2014) differ from the above stated papers, providing only information regarding the topic. Civan *et al.* (2010) detail the contents of the IFRS for SMEs in the paper and then compare the IFRS for SMEs in United States, European Union, and Turkey. Bozdemir (2014) gives information about detection and evaluation of the application process.

Turning to the other four papers, before considering the situation for SMEs, it may be useful to start with the positions of accounting professionals: so firstly, (Kılıç *et al.*, 2014) can be summarized. The paper has two main purpposes. The first one is to analyze the awareness, information level, preparedness, and perception of the accounting professionals regarding the IFRS for SMEs. The second one is to examine the effect of several factors such as experience, education level, and preparedness of the accounting professionals on their perception of the IFRS for SMEs.

For those purposes, a telephone survey was conducted during the months of April, May, and June of 2012. The sample of the study consisted of 450 accounting professionals selected randomly from several lists of professional accounting bodies in Turkey. 210 accounting professionals participated in the survey representing a response rate of 46.67 percent.

Regarding the first purpose, (Kılıç *et al.*, 2014) indicates that most of the accounting professionals are aware of the IFRS for SMEs adoption process; have a moderate information level of IFRS for SMEs; are optimistic regarding the adoption process; and attended trainings about IFRS for SMEs. Although the majority of accounting professionals made some preparation for the IFRS for SMEs, there still exist a considerable number of participants who did not.

Regarding the second purpose, it examines whether there is a significant difference in responses about IFRS for SMEs based on experience, education level, and preparedness. The findings show that less experienced respondents have more problems than more experienced ones since the IFRS for SMEs is complex. Moreover, accounting professionals who have an educational level of at least a master?s degree are in a better position about the first adoption of the IFRS for SMEs since it is detailed. As for the prepared respondents, they have a significant advantage compared to the unprepared ones since the IFRS for SMEs requires too much information.

The difficulties noted above about the adoption of IFRS for SMEs are also stated in Atik *et al.* (2010) but this time from the perspective of SMEs themselves. From this perspective, the IFRS for SMEs is very detailed and complicated as well. This is evident from the fact that more than half of the respondents do not have accounting departments and they have to outsource accounting services from Certified Public Accountant (CPA) firms. Therefore, the costs of SMEs may increase after the adoption of the standard.

In addition to this fact, Atik *et al.* (2010) aims to determine the current structure of SME accounting and financial reporting and the views of SMEs on the adoption and application of IFRS for SMEs. For this purpose, Atik *et al.* (2010) makes a web-based survey intended for owners, managers, and accountants of 216 SMEs.

Regarding the current structure of SME accounting and financial reporting, the responds show that tax based accounting is more common among SMEs, and most of the respondents are satisfied with the current accounting practices. Regarding the views of SMEs on the adoption and application of IFRS for SMEs, the responds show that most of the participants are unaware of IFRS for SMEs.

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[4]www.ifrs.org/Use+around+the+world/Use+around+the+world.htm

However, the participants who are aware want the Turkish Accounting Standards Board (TASB) to adopt the standard. The reason behind this wish is the good image of TASB. They think that TASB is a prestigious organization. However, 72.67 percent of the respondents say that the standard should be elective rather than compulsory that is, SMEs should decide whether to apply it or not.

Arsoy and Bora (2012) is a survey conducted with a sample that consists of accountants listed in the chamber of Bursa Independent Accountant and Financial Advisor and 305 randomly selected professions. The survey performs a SWOT analysis of the application of IFRS for SMEs in Turkey and then prepares questions of the survey based on this analysis. The response rate was 100 percent since the survey was conducted through face to face interviews.

The results of the survey show that the most important strength of applying IFRS for SMEs is improved internationalization of the enterprises which decide to apply the standards. This will lead to a growth of the enterprise. On the other hand, the results show that the most important weakness is the fact that financial reporting in Turkey is made mainly for the purpose of determining taxes. Therefore, a transfer to a reporting system which takes standards into account may not be an easy task. One other important weakness is the existence of a large informal economy in Turkey. Regarding the opportunities, the responses of the survey indicate that applying IFRS for SMEs can help increase the institutionalization of enterprises. On the other hand, the most important threat is the cost of a transformation to IFRS for SMEs. Enterprises may think that costs are much more than the benefits.

Gürak (2004) is a case study implemented in an Aegean town called Nazilli with 100,000 inhabitants. The results imply that the low degree of use of international standards diminish the opportunities accessible to Turkish firms in foreign markets, especially in OECD countries.

3   Sources of Data

The most important institution related to SMEs in Turkey is the Small and Medium Enterprises Development Organization (KOSGEB). It is a non-profit, semi-autonomous public organization responsible for the growth and development of SMEs in Turkey established in 1990. It is dependent to Ministry of Science, Industry, and Technology. Data related to SMEs are available in the institution but not open to the public. Therefore, data can be obtained only after special agreements.

The Turkish Statistical Institute (TURKSTAT) is of course the most important data source. Monthly press releases are available at their website. In these press releases numerical information about enterprises and also production, import, export, and innovation data can be found. Macro data is open to the public but for micro data the study should be done within the computer laboratories of TURKSTAT, and data can not be taken out.

Banking Regulation and Supervision Agency (BRSA) is also another important data provider related to financial information. Detailed data about SME loans can be obtained from the web site.

Moreover, there are some international institutions where data related to Turkish SMEs are also available. These are:

- Eurostat

- European Central Bank (ECB)

- European Commission (EC)

- World Bank

- IFC Financing to MSME

- IFC Enterprise Finance Gap Database

- OECD

- European Business Angel Network (EBAN)

- European Mutual Guarantee Association (AECM)

- European Venture Capital and Private Equity Association (EVCA)

- MSME country indicators/ SME Finance Forum

- MSME Country Indicators

- SME Performance Review

- The Entrepreneurship Indicators Programme

4   Conclusion

This paper reviews the literature related to the Turkish SMEs under the categorizations of "Economic Growth, Finance and Risk, Management, Innovation, Supports, Industries and Globalization and Internationalization". Moreover, information about the sources of data are also available in the paper.

In terms of categories, it is realised that comparatively, there are more papers related to Finance and Risk, Management, Innovation and Globalization and Internationalization. Most of the papers are either informative or based on the analysis of the surveys conducted. In general, the survey areas are restricted to certain regions. Only a few papers use econometric techniques. This is mainly due to the reason that there is a lack of data. However, now it can be said that data has started to accumulate since these papers were written. TURKSTAT, for example, provides micro data: therefore, it can be possible to conduct a panel data analysis by using this data for future research.

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