SMEs and International Business

Finance, Innovation, Enterprise Architecture and Business Education

Emin Akçaoğlu and Rainer Wehner
Editors

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This volume combines eleven chapters written by sixteen academics from six countries namely Austria, Germany, Hungary, India, Latvia, and Turkey. They are the outputs of the WIBF's annual International Business Conferences. With this regard, we thank all our conference participants for their contributions to the discussions, the referees for their time and energy, and the chapter authors in this volume for their willingness and expertise.

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1

SMEs and International Business: Introduction

Emin Akçaoğlu and Rainer Wehner

1.1 Introduction

With an estimated number of approximately 213 million, SMEs are the backbone of economies in many countries. They account for the majority of businesses and are important job creators by creating over 50% of employment worldwide. Therefore, SMEs play a critical role in forming democratic welfare of societies especially in developing countries. The middle class society in Germany, so called Mittelstand, is a well-known example of this. The so called "Wirtschaftswunder" after the II. World War was mostly created by family run SMEs. Despite of their contribution to the economies and society today, SMEs tend to be underrepresented in international trade. Because of the high costs often associated with engaging in international markets, they usually account for a small proportion of exports relative to their share of overall activity and employment. Smaller firms also face greater challenges than larger firms in navigating foreign markets, with less capacity to address complex regulatory requirements. In some cases, however SMEs are also very active in international business operations. Many of them either exporters or importers. Though, as in the German case, SMEs usually are reluctant to invest directly in foreign countries. However, many SMEs are multinational companies. Increasing economic integration among nations forces all companies including SMEs to be involved in international business and moreover in foreign direct investment (FDI). In fact, FDI has a pivotal role for international trade flows too; and two third of the world trade volume is undertaken by multinationals. Surprisingly, multinationals are not generally large or big companies as is supposed by many. On the

contrary, they are rather smaller companies. In addition, SMEs cannot resist against the progressive movement of digitalisation or Industry 4.0 together with the pressures for internationalisation. Furthermore, the business models or architectures that SMEs adopt for a foreign market are not necessarily the same as those applying for the domestic markets. Therefore, doing business across foreign borders requires a permanent internal debate about international trade channels and regulations as well as the adaption of different cultural aspects.

For this reason, International Business, particularly with a special emphasis on internationalisation of SMEs needs to be an integral aspect of higher education. International Business students need to learn that internationalisation is not only a business of big multinationals but also a challenge for SMEs.

By keeping all these points in mind, this book has been an outcome of the annual International Business Conferences of the Würzburg International Business Forum which has already established itself as a global forum aiming at generating discussion with regard to international business.

This volume combines eleven chapters written by sixteen academics from six countries namely Austria, Germany, Hungary, India, Latvia, and Turkey. They all cover different aspects of international business activities within the context of SMEs mainly.

In the second chapter, Mukherjee and Tomar (2022) look at the case of Indian micro, small and medium-sized enterprises (MSMEs). Over the last few years, as a part of liberalization, the Indian market has been increasingly being opened to foreign companies, including SMEs. Their influx will soon make the domestic market saturated, rendering inadequate growth opportunities for both Indian and foreign SMEs. Hence, it is imperative for Indian SMEs to go global, akin to their foreign counterparts exploring and expanding in the Indian market. Going global will not only help the Indian SMEs expand their market reach, but also prepare them for global competition. This will help them improve their performance in the local market as well. As a first step, to improve the performance of the Indian MSMEs, there have been a revision of the definition of the MSMEs. According to the revised definition, the investment limit has been revised upwards, and an additional criterion of turnover has been introduced. The authors state that the Indian government has done away with the distinction between manufacturing and services sector. In this respect, along with entrepreneurship, and other factors E-commerce, use of different

forms of services and online digital platforms can assist the Indian MSMEs to carry forward and continue its internationalization process even in the post-Covid era. E-commerce has the potential to build global reputation, access to foreign markets, competitive pricing, wider access, reducing information asymmetry and technology integration. Similarly, government policies, availability of resources, conducive business environment along with constant innovation, entrepreneurship skills and managerial skills has the potential to overcome the challenges of barriers to the Internationalization process for Indian MSMEs.

In the third chapter, Ünal, Başaran and Bektaş (2022) focus on innovation centres and their contribution to economies with a focus on the Turkish case. They argue that companies are under significant pressure due to intensifying competition that is intensified by globalization. In their study, they examine the effect of Innovation Centres established in Adana Metal Works Industrial Site and Mersin Organized Industrial Zone (OIZ) on increasing the innovative competencies of SMEs in their pilot studies. These Innovation Centres were established within the scope of the "Resilience Project in Turkey in Response to the Syria Crisis which was carried out to support the regional development needs in the provinces of Adana and Mersin. These cities experienced the greatest influx of immigration as a result of the Syrian crisis due to their proximity to the Syrian border.

In the fourth chapter, Köseoğlu (2022) focuses on the supplier selection process regarding SMEs and political risk in global trade. He claims that like many other companies, SMEs also look for opportunities for growth and profits through global trade. Supplier selection in trading countries is so important to ensure and sustain that process. Related to successful trade operations, supplier selection decisions of SMEs engaged in international trade are gaining importance. Trade barriers between countries are another crucial factor in international trade. They may cause results such as losing customers and therefore decreasing sales. Political risks may also cause similar outcomes. The focus of Köseoğlu's study is on trading companies' supplier selection decisions in foreign countries where a company may lose customers rapidly as a result of increasing customer complaints and returns. With this regard, the analysis of customs clearance, storage, distribution, service, and returns operations' in this context, and examination of customers' complaints have revealed important data in terms of detecting such problems. To that end, each case is defined and explained. The research results indicate that

working with a supplier company based in the foreign country for customs clearance, storage, distribution, service, and returns operations will highly likely prevent disruptions caused by political risks and increase the likelihood of success of the trade operation.

In the fifth chapter, Evrosimovska (2022) evaluates the role of internal factors and networking in SME internationalization. This chapter is essentially about the critical success factors for internationalization of SMEs. The author presents that entrepreneurship, international experience, returnee employee, global mind-set, and available resources are the major critical factors in SME internationalisation. To that end, the author elaborates on networking as highly significant for internationalisation, especially of SMEs. This work finishes with practical personal experience in a single case company, regarding internal factors and networking activities for successful internationalization.

In the sixth chapter, Civelek (2022) examines the importance of performance and credit access of SMEs in their internationalization process. He argues that SMEs not only face with issues regarding political, legal, economical systems of various countries but also encounter troubles regarding cultural differences when operating in international markets; and to cope with those obstacles, bank credit access has vital importance for SMEs. With this regard, his aims to understand the impacts of performance of SMEs in terms of different size, age and legal form on receiving bank loans. To that end, this chapter analyses 479 Turkish SMEs by employing Binary Logistic Regression Test. He concluded that while smaller sized SMEs that perform better receive more credit accesses, firm age and legal forms are not determinant factors for credit access of well performed SMEs.

In the seventh chapter, Ünal and Özdemir (2022) focus on access to finance by micro, small and medium-sized companies in Turkey. The authors investigate the SME financing and its determinants in the Turkish banking. The results from the analysis of data suggest that bank financing of SMEs play a crucial role in terms of size, dispersion and variety in improving SME's access to finance in Turkey. With this regard, financials of SMEs become key for banks for pricing risk and financing of operation and investment of SME segment in the credit portfolio. Besides, comparison of main financials of SMEs and large scale firms reveals substantial differences in the course of doing activities. Regression analysis of loans extended to SMEs and large scale firms using macroeconomic, banking sector and market variables

as explanatory variables indicated that market interest rate is statistically significant for medium-small-and micro firms with different levels. Sensitivity of large scales firms to market interest rate is less than that of SMEs in explaining the factors effecting the financing amount.

In the eight chapter, Akçaoğlu and Wehner (2022) look at export credit agencies and small firm internationalization. They emphasize that while SMEs are very important in all economies particularly due to their potential for employment generation; they also form the most vulnerable part of economies because of resource scarcity. In recent years, internationalization of SMEs has become a popular topic for governments as well as international organizations such as the EU with the expectation of a potential cure for recession and unemployment following the Global Financial Crisis of 2000s. Financial crises create a crisis of confidence (sometimes vice versa) even among the biggest banks and companies. Strengthening insecurity and the general rise in interest rate levels in such periods cause companies to be more cautious in sales on credit terms in international trade. Thus, the loss of confidence is not only prevalent among financial institutions and bank, but also among trading real sector companies selling on credit terms. In these periods, SMEs are struggling in a much more difficult situation for reaching trade financing. In addition, their direct investment attempts are also badly affected mainly because they cannot – in many cases – deal with the risks involved. Therefore, recalling the recent political and economic developments in the world economy causing a 'new' trade war era among major countries and regional economic blocks, the authors argue that SME internationalization should be supported by external agents like Export Credit Agencies.

Starting from the ninth chapter, the rest of this volume takes some additional issues to the agenda that they are also definitely relevant for SMEs as well as other type of organisations such universities and business education.

In this respect, in the ninth chapter, Höpfner and Roscher (2022) focus on the impact of enterprise architecture management (EAM). The scope of this chapter is based on an ongoing research project. Hence it aims to understand the concept of EAM and its points of impact in a case company studied. With this regard, the research literature on EAM is surveyed and used to develop the existing EAM frameworks to examine where EAM creates added value in companies.

In the tenth chapter, Andrási, Csekő and Budai (2022) focus on teaching international business with the help of labs, and they analyse how business skills can be development by the use Virtual and Augmented Reality. This is also a case study. The authors argue that the use of technology, especially simulations with virtual and augmented reality in a laboratory environment contributes successfully to developing various skills in international business education. The lab at a Hungarian university of applied sciences and the related experiences also prove that both hard and soft skills can be developed in this environment. However, using real company data in the laboratory brings with it a special risk, namely academic export compliance. The authors present the academic activities of the lab and this special risk and propose institutional practices regarding the challenging issue business educators need to address: deemed export. Therefore, academic institutions need to comply with special export regulations if the gathered information is not being published. If the sharing of information does not meet the criteria for publication, it can fall into the scope of "deemed" export and has finally meet some criteria. The authors provide a detailed view into the occurring regulations and named as an example the regulations that affect their Lab at their home University. As a conclusion they highlighted the importance of the use of AR or VR for further education. Nevertheless, the point out that the dissemination of information has to comply with the official regulations to meet harmony and balance between the protections of new ideas and free ways of thinking.

In the final chapter, Baltzer (2022) focuses on the design of a performance measurement system based on a simplified strategy process. By utilising the action research case study methodology, this study measures the performance of an organization against its strategic goals. The author argues if it is possible to design a performance measurement system in absence of an exhaustive strategy process, and then tests a simplified strategy process to design a such a system. The simplified strategy process builds on the two frameworks Business Model Canvas and Balanced Scorecard Incl. Strategy Map. The chapter presents the case study of an international master program at a German university of applied sciences. The research is based on several workshops to carry out the importance, the reasons for introducing a performance management system in higher education and the barriers of a potential implementation on the basis of three prominent models of performance measuring, like the Balanced Scorecard (BSC), Hoshin Kanri (HK) and Objectives & Key Results (OKR). The outcome of the

research indicates that the BSC turned out to be the most suitable model for the simplified strategy process. By integrating the strategic goals and the KPIs into the model, Baltzer discovered that the BSC model can serve as a solid basis for a performance measurement system.

As outlined in this introductory chapter, this volume brings a number of important topics with regard to finance, innovation, enterprise architecture and business education within the context of SMEs and international business. We hope that these contributions will stir further discussions in the relevant areas.

References

Akçaoğlu, E. and Wehner, R. (2022). Export Credit Agencies and Small Firm Internationalization, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 93-103.

Andrási, G., Csekő, K. and Budai, L. (2022). Teaching International Business via Labs: Business Skills Development by Virtual and Augmented Reality – the BBS FIMB Case Study, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 120-138.

Baltzer, B. (2022). Designing a Performance Measurement System Based on a Simplified Strategy Process – An Action Research Case Study, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 139-155.

Civelek, M. (2022). The importance of performance and credit access of SMEs in their internationalization process, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 66-83.

Evrosimovska, T. (2022). Internal Factors and Networking – Critical for Success of SMEs in International Markets: Practical Implications in a Reference SME, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 55-65.

Höpfner, R. and Roscher, B. E. (2022). Demonstration of the Impact of Enterprise Architecture Management in a Company by Using

Frameworks, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 104-119.

Köseoğlu, A. M. (2022). Global Trade and Political Risk for SMEs: A Case Study on Supplier Selection, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 42-54.

Mukherjee, S. and Tomar, S. (2022). Internationalization of Indian Micro, Small and Medium-sized Enterprises [MSMEs] with reference to the Post-Covid Era, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 9-22.

Ünal, H. T., Başaran, E. Y. and Bektaş, H. (2022). Innovation Centres in the Contribution of SMEs to the Economy, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 23-41.

Ünal, H. T. and Özdemir, N. (2022). Access to Finance of MSMEs in Turkey, in Akçaoğlu, E. and Wehner, R. (Eds.), SMEs and International Business - Finance, Innovation, Enterprise Architecture and Business Education, Würzburg International Business Press & Doğuş University Press, Würzburg, pp. 84-92.

2

Internationalization of Indian MSMEs with reference to the Post-Covid Era

Sonia Mukherjee and Reeta Tomar

2.1 Introduction

Micro, small and medium-sized enterprises [MSMEs] represent a sector of vital importance and is known to play a good role in the emerging nations especially in matters of providing livelihood and boosting the economic growth. Small and medium enterprises (SMEs) in India generate 11% of the country's gross domestic product (GDP) and 45% of the entire manufacturing output, creating more than 100 million employment opportunities in the process. These SMEs not only act as key support units for large firms, but also help in expanding industry coverage in rural areas, strengthening the backbone of the economy. However, the growth of SMEs in India has been plagued with several challenges and problems. The problems include weak marketing facilities, inadequate access to credit, lack of access to technology, and complex regulations and procedures.

Moreover, over the last few years, as a part of further liberalization, the Indian market has been increasingly being opened to foreign companies, including SMEs. Their influx will soon make the domestic market saturated, rendering inadequate growth opportunities for both Indian and foreign SMEs. Hence, it is imperative for Indian SMEs to go global, akin to their foreign counterparts exploring and expanding in the Indian market. Going global will not only help the Indian SMEs expand their market reach, but also prepare them for global competition. This will help them improve their performance in the local market as well. As a first step, to improve the performance of the

Indian MSMEs, there have been a revision of the definition of the MSMEs. According to the revised definition, the investment limit has been revised upwards and an additional criterion of turnover has been introduced. The government has done away with the distinction between manufacturing and services sector. As per the revised definition, any firm with investment up to 1 crore and turnover under Rs. 5 crores will be classified as "Micro". A company with investment up to Rs. 10 crore and turnover up to Rs. 50 crores will be classified as "Small" and a firm with investment up to Rs. 20 crore and turnover under Rs. 100 crores will be classified as "Medium".

2.2 Internationalization of the Indian MSMEs

There has been a rise in the attention being placed on the internationalization of small and medium-sized enterprises (SMEs) (Lu and Beamish, 2001; Knight, 2001). Internationalization aids the firms to focus on core capability, skill and opportunities in foreign markets (Penrose, 1959). Welch and Luostarinen (1988) called for exploring international market opportunities by easing trade in the form of export to overseas nations and establishing alliances with foreign firms. Other academics and researchers have defined internationalization and exporting as a phenomenon when firms enter foreign markets to sell their goods or services (Calof and Beamish, 1995; Johanson and Mattson, 1993; Johanson and Vahlne, 1990; Lumpkin and Dess, 1996; Chabowski et al., 2018).

Prior studies have identified factors determining SME internationalization; for example, firm structure, strategy, entrepreneurial and market orientations, human resource capabilities, social network, trust and environmental exigencies have all been shown to play a key role in international expansion (e.g., Mendy and Rahman, 2019; Luo and Tung, 2007; Moreno-Menendez and Casillas, 2014; Chaston and Sadler-Smith, 2012; Amal et al., 2013). Factors related to regional and economic development (see for example Benneworth, 2004; Huggins and Williams, 2011; Laukkanen, 2000) also drive the international expansion process. Study reveals that these characteristics have shown to aid and reduction of the challenges in the SME internationalization process (Dai et al., 2014; Knight, 2001).

Since, the year 1991, the Indian Government has been relaxing import restrictions with the objective to promote the growth of trade and also with the objective to expand India's economic standing within

the global community. The rapid expansion of business into global markets have caused a rising demand for international brands and services (Javalgi and Ramsey, 2001). Small and medium-sized businesses within the nation began to feel the burden from growing competition from firms that were earlier impenetrable out of the local market. This reason has resulted in a progressively competitive environment to which SMEs are trying to adapt gradually. Over time, Entrepreneurship has been recognized as evident from the works of Schumpeter (1934), as a key driver in the economic development of a country. Entrepreneurship can be defined as the process of creating value through the management of resources to take advantage of an opportunity (Morris and Sexton, 1996).

Drivers behind the Internationalization of MSMEs

Firms' decision to engage in export activity is likely to be determined by both internal and external forces (Czinkota and Ronkainen, 2006; Leonidou et al., 2007). Given this, a "all-inclusive" approach is required. This is expected to ease the understanding of host of issues that impact the internationalization choice of firms (Crick, 2007; Olejnik and Swoboda, 2012). First, unexpected conditions are a major driver for SME internationalization. Basically, unexpected conditions include reactive elements such as information and communication technology (ICT), network relationship and unsolicited orders (Oviatt and McDougall, 1994; Zhang et al., 2016). In the past few decades, technological developments have also facilitated SMEs to expand their business internationally (Oviatt and McDougall, 1994; Knight and Cavusgil, 1996). ICT has been a major driving force behind the development of E-commerce in the recent decades. E-commerce depends on the size of the internet and is the maximum powerful means of communication that business around the worldwide has ever known. Further, SMEs in their primary export stages are expected to be influenced by sensitive and outside forces as compared to their advanced stages (Leonidou et al., 2007). A study conducted by Czinkota and Ronkainen (2006) in context of the country USA found that unwanted orders played a significant role in inducing the export activities of small firms. In fact, these issues have been broadly discussed in the worldwide marketing literature as main encouraging factors (Westhead et al., 2002). Firm-related advantages mainly comprise global network ties, technical advantage and decision-making talent and skills. All of these matters narrate the firm's internal

conditions. In addition, these factors also reflect the returns that enable a firm to internationalize rapidly (Knight and Cavusgil, 1996; Madsen and Servais, 1997; Leonidou et al., 2007 Senik et al., 2011).

However, there are different barriers in the way of Internationalization of MSMEs. Some of the common barriers are as follows-

Given the numerous drivers that regulate the firms' internationalization paths, it is essential to identify and recognize the different types of obstacles that are likely to affect the early internationalization of the firms. International economic integration is altering the competitive example in which all dealings and trade function, and necessitating an international enlargement strategy to certainly impact the long-term development and existence (Karagozoglou and Lindell, 1998). The small business sector has become more important as they emerge as a dominant force impacting the growth of national economies (Shridhar, 2006).

However, there are many business firms that are still unwilling to sell their production in the form of goods and services in the global markets due to compactness and resource restrictions. Such challenges have consistently affected and influenced the aptitude of SMEs from developing countries to participate in the global market (Kyvik et al., 2013: Rahman et al., 2017). However, not all SMEs in nations can venture in the global market because SMEs do face barriers either internally or from external conditions. Further, smallness is often highlighted as a major disadvantage in the internationalization process as small firms lack sufficient resources in numerous forms to enter the global market (European Commission, 2007). Therefore, it is important to understand how barriers are going to affect the early internationalization of SMEs.

There are a number of difficulties integrally faced by SMEs as they changeover into international atmospheres (Chen and Huang, 2004). Managers, administrators and management of non-exporting SMEs perceive the international environment as being risky, unprofitable and unmanageable, due primarily to misinformation and lack of experience with global business (Malekzadeh and Nahavandi, 1985). SMEs, due to their size limitations, often have limited financial capital and a lack of necessary human resources. Many operators of small businesses lack experience in developing an international strategy (Tesar and Moini, 1998). There are also disadvantages related to a lack of competitive power as a consequence of the size of the organization. SMEs have difficulty in influencing global pricing as they rely on a

small customer base, and are limited in expansion due to minimal access to financial resources (Kalantaridis, 2004).

2.3 Challenges Faced by Indian MSMEs in the Internationalization Process

While global expansion is need of the hour for Indian SMEs, there are several challenges that need to be addressed first. Despite the Indian government's strong impetus and push to Indian SMEs and exports, around 65 million Indian SMEs are engaged in global trade at present.

Lack of knowledge on overseas market scenarios and lack of experience in conducting global trade are some of the major barriers to the internationalization process of Indian SMEs. Exploring an unfamiliar and foreign territory can be both risky and expensive. Acquisition of knowledge on overseas markets beforehand is a correspondingly time-consuming and expensive process. Insufficient information on potential business occasions can lead to a high opportunity cost of choosing the wrong target, thereby affecting the margins and self-confidence of a firm. Similarly, lack of access to global trade resources to ease end-to-end deals can hollow an SME's budget substantially. Hence, though global expansion is an attractive intention, it is a chancy endeavour if performed without adequate preparation.

Against the backdrop of the chapter, the objective of the study mainly focuses on the role of e-commerce and services in matters of Internationalization of Indian MSMEs. In the next subsequent sections, we will discuss the literature on the barriers which come in the way of Internationalization of MSMEs followed by theoretical frameworks, methodology, results and discussion and conclusion with special emphasis on the role of E-commerce and Services in accelerating the process of Internationalization of Indian MSMEs.

Literature Review

Export marketing literature has recognized and highlighted the importance of external determinants that influence entrepreneurs to initiate the internationalization activity (Katsikeas and Piercy, 1993; Westhead et al., 2002) and aid in formulating strategies that would enhance their export performance (Ben and Trimeche, 2003). A

significant volume of empirical research argues that firms need to focus upon the external situation and managerial perceptions about the external attributes that should be regarded as a significant causative element in determining the internationalization activities (Westhead et al., 2002; Ben and Trimeche, 2003). Bloodgood et al. (1995) suggest that firms with unique bundles of resources will have a greater orientation to internationalization. It is also important to highlight SMEs' internal environment which would positively influence its ability to accelerate the early internationalization and the performance (Bloodgood et al., 1995; Madsen and Servais, 1997). Correspondingly, there are other studies which have highlighted that, to be successful, firms should have appropriate resources for international growth (Ruzzier et al., 2006).

Against this backdrop, the we find that there are a number of determinants which might play an important role in the process of internationalization of the MSMEs in the 21st century especially during the post Covid times. We include a number of independent variables in the study. For example, an exporting firm will have a higher propensity to export as compared to a non-exporting firm. Established and bigger Manufacturing Firms exporting in the last ten years (for e.g., 2010) will continue to export and engage in the process of Internationalization. Secondly, the other important factor is availability of entrepreneurship skills for the process of Internationalization. Thirdly, managerial perceptions, human resources, better management and organizational skills are also an important element for the internationalization process. Fourthly, use of services such as foreign services, legal services, IT services, consultancy services, advertising, marketing and distribution services are helpful for MSMEs who are willing to venture and explore the foreign market. In addition to the above-mentioned factors, the other notable factors determining the internationalization process are government support and policies, including availability of finance, resources and Investing in Research and Development and constant innovation and upgradation of products and services etc.

With the onset of the Covid-19 pandemic, the role of e-commerce and digital platforms have been particularly important since the consecutive lockdowns were imposed in India. The Indian MSME will have to take the advantage of the opportunity via different digital modes (i.e., apps, platforms) to boost their sales of products and services in the international market in the post pandemic times.

2.4 The Theoretical Framework for Internationalization

Internationalization of firms can be described in such a functional relationship as follow:

(Internationalization of MSME)$_{it}$ = f (Exporting Firms$_{it}$, Managerial Skills and Perceptions$_{it}$, Entrepreneurship skills$_{it}$, Innovation$_{it}$, Availability of Capital and Resources$_{it}$, Government Support and Policies$_{it}$, Conducive Business Environment$_{it}$, Usage of Different Services$_{it}$, Use of E-commerce and Digital Platforms$_{it}$)

Here, *i* stands for Firms (i.e., MSME) and *t* stands for years.

With the onset of Covid-19 pandemic, there has been curtailment and restrictions in the movement of goods and services in the global economy. Hence the present norm is more rapid usage of online digital platforms, apps, e-commerce and various use of different forms of services to boost sales in the foreign market.

Table 2.1 Relationship between Factors Affecting the Internationalization Process of the Firms

Internationalization of firms	*Relationship with the independent variables*
Independent variables	
Exporting Firms	+
Managerial Skills and Perceptions	+
Entrepreneurship Skills	+
Availability of Capital and Resources	-
Government Support and Policies	+
Business Environment	+
Use of Services-	+
Advertising	+
Marketing	+
Selling and Distribution Services	+
Innovation and R&D expenditure	-
E-Commerce and Digital Platforms	Divided into two phases 2010-2015- negative 2015-2020-positive

Along with entrepreneurship, and other factors E-commerce, use of different forms of services and online digital platforms can assist the

Indian MSMEs to carry forward and continue its internationalization process even in the post-Covid era. E-commerce has the potential towards building of global reputation, access to foreign markets, competitive pricing, wider access, reducing information asymmetry and technology integration. Similarly, government policies, availability of resources, conducive business environment along with constant innovation, entrepreneurship skills and managerial skills has the potential to overcome the challenges of barriers to the Internationalization process for Indian MSMEs.

2.5 Methodology, Results and Discussion

A simple dummy regression was carried on over a 10-year time-span from 2010. We divided this period into two sub-periods, namely 2010-2015 and 2015-2020 and also performed regression for the entire period.

Data were collected from the Annual Reports released by the Ministry of MSME since 2010. In addition, some data were collected from the Centre for Monitoring of the Indian Economy (CMIE) for use of services and expenditure made on Research & Development. Lastly, data on usage of e-commerce and digital platforms were compiled from the reports released by some other sources (such as IBEF, and other government sources etc.)

The results obtained indicates that factors such as exporting (large firms), good managerial skills and entrepreneurial skills, government support and polices (technological support, launch of different schemes from time to time), supportive business environment (i.e. Make in India, Digital India, promoting entrepreneurship and launch of different Start-ups), usage of different services like advertising, marketing, distribution and selling services played a prominent role in helping in the internationalization process of the firms.

However, if we look at access to credit (i.e., capital) and investment in research and development, and constant process of innovation; only some bigger and well-established firms were able to take advantage of the positive factors positively associated with the internationalization process. Small and newer firms faced dearth of capital. With the pandemic hitting the entire nation, many newer firms and firms with limited capacity were unable to survive and had suffered a severe

financial loss. Hence, the government is trying to help these firms through greater financial stimulus and packages.

Lastly, looking at the use of e-commerce and digital platforms, the MSMEs are quickly adapting to the newer technologies via the online mode. However, this also requires reskilling and adoption of new business models over time. Some firms are still using the obsolete models of business and hence it will take time to adopt to the newer business forms in the future post-pandemic times. The results are promising since the year 2015 as e-commerce market is expected to grow enormously by the year 2031 touching almost every market segment in the country.

For the other variables, there has been significant progress in terms of the factors using since the time-period 2010. All the factors except access to capital and investment in innovation and R&D have played an important role since 2010.

2.6 Conclusion

In this pandemic situation, MSMEs have been heavily exposed to economic downturns due to COVID-19 because of their size. Out of 147 MSMEs surveyed in the Asia Pacific region, around 50 percent of them have less than a month's cash reserve. According to WTO, the most prominent reason behind low participation of MSMEs in the international market are lack of requisite skills, limited knowledge of international markets and access to limited trade finance.

MSMEs are among the worst hit. Some firms are suffering due to their working capital being struck. Looking at the situation, the government had announced Rs. 3 lakh crore emergency credit line guarantee scheme (ECLGS) in the form of easy loan to small firms. According to the (OECD, 2020b), the sectors include accommodation and food services, cultural and creative sectors, and wholesale and retail services have been worst hit due to the pandemic.

E-commerce can become one of the indispensable vehicles in the pandemic situation to facilitate the integration of MSMEs to the global value chain. E-commerce has the potential to provide wider reach, ease, better costing and scalability opportunities for the businesses. Further, the government is pushing Make in India at the same time and the country is trying to find its feet in the world's economic arena. During the pandemic times, the e-commerce network and web has even

spread to the smallest of the retailers. It is anticipated that e-commerce will reach to more than $84 billion after the year 2021.

E-commerce platforms provide links on Facebook and Instagram, to create consciousness about their goods and services. Furthermore, MSMEs can lower their expenditure on advertising and marketing and can reduce the operating cost of physical stores. In recent times, B2B e-commerce players have started generating store and is capable of analysing customer data including prices of their products, and purchases made for some time period. The datapoints analyse the delivery time, location, methods of payment. The MSMEs are capable of using the data for meeting the demands of the consumers and provide better services to increase the consumer base.

Many of the technologies have become essential to the industries. MSMEs are using latest digital technology for their ventures and bound back post-pandemic. E-commerce mainly includes digital trading practices for commodities and services. Hence, there is a requirement for digital equipment's, devices and strong internet networks and connectivity.

In addition to e-commerce, different forms of services can also play a prominent role in helping the MSMEs in the tough times. Using Advertising, marketing, selling and distribution services, a firm can reach out to its global customers in the world-wide market. Through the use of digital platforms, MSMEs are creating their own website and trying to advertise their products and brands in the international market. With the pandemic hitting every nation, customers have changed their mode of shopping from offline to online. Hence to increase the sales and reach out to different customers located in the different countries, MSMEs can use the advertising, marketing and distribution services to achieve greater integration in the global market. Amazon is a prominent example of an online retailer who have successfully captured the online market. However, for MSME to operate online, a boost to use of ICT services and digital literacy is a need of the present times.

References

Lu, Jane & Beamish, Paul. (2001). The Internationalization and Performance of SMES. Strategic Management Journal. 22. 565 - 586. 10.1002/smj.184.

Penrose, E. (1959/1995). The Theory of the Growth of the Firm (3rd ed.). Oxford: Oxford University Press.

Welch, Lawrence & Luostarinen, Reijo. (1988). Internationalization: Evolution of a Concept. Journal of General Management. 14. 155-171. 10.1177/030630708801400203.

Mendy, J. and Rahman, M. (2019), "Application of human resource management's universal model: an examination of people versus institutions as barriers of internationalization for SMEs in a small developing country", Thunderbird International Business Review, Vol. 61 No. 2, pp. 363-374.

Luo, Y. and Tung, R.L. (2007), "International expansion of emerging market enterprises: a springboard perspective", Journal of International Business, Vol. 38 No. 4, pp. 481-498.

Moreno-Menendez, A.M. and Casillas, J.C. (2014), "Open innovation and internationalization behavior: the case of Spanish firms", in Culpan, R. (Ed.), Open Innovation through Strategic Alliances, Palgrave Macmillan, New York, pp. 85-106.

Chaston, I. and Sadler-Smith, E. (2012), "Entrepreneurial cognition, entrepreneurial orientation and firm capability in the creative industries", British Journal of Management, Vol. 23 No. 3, pp. 415-432

Amal, M., Baffour Awuah, G., Raboch, H. and Andersson, S. (2013), "Differences and similarities of the internationalization processes of multinational companies from developed and emerging countries", European Business Review, Vol. 25 No. 5, pp. 411-428.

Benneworth, P. (2004), "In what sense 'regional development?' Entrepreneurship, underdevelopment and strong tradition in the periphery", Entrepreneurship and Regional Development, Vol. 16 No. 6, pp. 439-458.

Huggins, R. and Williams, N. (2011), "Entrepreneurship and regional competitiveness: the role and progression of policy", Entrepreneurship and Regional Development, Vol. 23 Nos 9/10, pp. 907-932

Laukkanen, M. (2000), "Exploring alternative approaches in high-level entrepreneurship education: creating micro mechanisms for endogenous regional growth", Entrepreneurship and Regional Development, Vol. 12 No. 1, pp. 25-47.

Dai, L., Maksimov, V., Gilbert, B.A. and Fernhaber, S.A. (2014), "Entrepreneurial orientation and international scope: the differential roles of innovativeness, pro-activeness, and risk-taking", Journal of Business Venturing, Vol. 29 No. 4, pp. 511-524.

Knight, G.A. (2001), "Entrepreneurship and strategy in the international SME", Journal of International Management, Vol. 7 No. 3, pp. 155-171.

Calof, J.L. and Beamish, P.W. (1995), "Adapting to foreign markets: explaining internationalization", International Business Review, Vol. 4 No. 2, pp. 115-131.

Johanson, J. and Mattson, L.G. (1988), "Interorganizational relations in industrial systems: a network approach", in Hood, N. and Vahlne, J. (Eds), Strategies in Global Competition, John Wiley, New York, pp. 287-314.

Johanson, J. and Vahlne, J.-E. (1977), "The internationalization process of the firm: a model of knowledge development and increasing foreign market commitments", Journal of International Business Studies, Vol. 8 No. 1, pp. 23-32.

Johanson, J. and Vahlne, J.-E. (1990), "The mechanism of internationalization", International Marketing Review, Vol. 7 No. 4, pp. 11-24.

Lumpkin, G.T. and Dess, G.G. (1996), "Clarifying the entrepreneurial orientation construct and linking it to performance", Academy of Management Review, Vol. 21 No. 1, pp. 135-172.

Chabowski, B., Kekec, P., Morgan, N.A., Hult, G.T.M., Walkowiak, T. and Runnalls, B. (2018), "An assessment of the exporting literature: using theory and data to identify future research directions", Journal of International Marketing, Vol. 26 No. 1, pp. 118-143+69

R. Javalgi and R. Ramsey, "Strategic Issues of E-Commerce as an Alternative Global Distribution System," International Marketing Review, Vol. 18, No. 4, 2001, pp. 376-391. doi:10.1108/02651330110398387

Czinkota, M.R. and Ronkainen, I.A. (2006), International Marketing, The Dryden Press, Hinsdale, IL.

Leonidou, L.C., Katsikeas, C.S., Palihawadana and Spyropoulou, S. (2007), "An analytical review of the factors stimulating smaller firms to export: implications for policy-makers", International Marketing Review, Vol. 24 No. 6, pp. 735-770.

Crick, D. (2007), "UK SMEs' motives for internationalizing: differences between firms employing particular overseas market servicing strategies", Journal of International Entrepreneurship, Vol. 5 Nos 1/2, pp. 11-23

Olejnik, E. and Swoboda, B. (2012), "SMEs internationalization patterns: descriptive, dynamics and determinants", International Marketing Review, Vol. 29 No. 5, pp. 466-495.

Oviatt, B.M. and McDougall, P.P. (1994), "Toward a theory of international new ventures", Journal of International Business Studies, Vol. 25 No. 1, pp. 45-64.

Zhang, X., Ma, X., Wang, Y., Li, X. and Huo, D. (2016), "What drivers the internationalization of Chinese SMEs? The joint effects of international entrepreneurship characteristics, network ties and firm ownership", International Business Review, Vol. 25 No. 2, pp. 522-534

Knight, G.A. and Cavusgil, S.T. (1996), "The born global firm: a challenge to traditional internationalization theory", Advances in International Marketing, JAI Press, New York, pp. 11-26.

Knight, G.A. and Cavusgil, S.T. (2004), "Innovation, organizational capabilities, and the born-global firm", Journal of International Business Studies, Vol. 3 No. 5, pp. 124-141.

Westhead, P., Wright, M. and Ucbasaran, D. (2002), "International market selection strategies selected by micro and small firms", The International Journal of Management Science, Omega, Vol. 30 No. 1, pp. 51-68.

Westhead, P., Wright, M. and Ucbasaran, D. (2004), "Internationalization of private firms: environmental turbulence and organizational strategies and resources", Entrepreneurship and Regional Development, Vol. 16, pp. 501-522, doi: 10.1080/0898562042000231929.

Knight, G.A. and Cavusgil, S.T. (1996), "The born global firm: a challenge to traditional internationalization theory", Advances in International Marketing, JAI Press, New York , pp. 11-26.

Senik, Z.C., Ladd, B.S., Entrekin, L. and Adham, K.A. (2011), "Networking and internationalization of SMEs in emerging economies", Journal of International Entrepreneurship, Vol. 9, pp. 259-281.

Karagozoglou, N. and Lindell, M. (1998). "Internationalization and small and medium sized technology-based firms: an exploratory study". Journal of Small Business Management, Vol. 36 No. 1, pp. 44-59.

Shridhar, M. (2006). Incubators and science parks: strategies for developing countries, (accessed July 2, 2007), [available at: www.anprotec.org.br/idisc/pdfs/ publiacoes/155.doc]

Kyvik, O., Saris, W., Bonet, E. and Felıcio, J.A. (2013), "The internationalization of small firms: the relationship between the global mindset and firms' internationalization behavior", Journal of International Entrepreneurship, Vol. 11 No. 2, pp. 172-195.

Rahman, M., Uddin, M. and Lodorfos, G. (2017), "Barriers to entering foreign markets: evidence from SMEs in emerging markets", International Marketing Review, Vol. 34 No. 1, pp. 68-86.

Chen, H.L. and Huang, Y. (2004), "The establishment of global marketing alliances by small and medium enterprises", Small Business Economics, Vol. 22, pp. 365-77.

Malekzadeh, A. R., Nahavandi, A. (1985). Small business exporting: Misconceptions are abundant. American Journal of Small Business, 9: 7-14.

Tesar, G., Moini, A. H. (1998). Longitudinal study of exporters and nonexporters: A focus on smaller manufacturing enterprises. International Business Review, 7(3): 291-313

Kalantaridis, C. (2004). Internationalization, strategic behavior, and the small ¿ rm: a comparative investigation. Journal of Small Business Management, 42(3): 245-262.

Katsikeas, C.S, Leonidou, L.C. and Morgan, N.A. (2000) Firm-level export performance assessment: Review, evaluation and development. Journal of the Academy of Marketing Science.28 (4): 493-511

Ben, M. and Trimeche, B. (2003), "Export problems and stimuli associated with performance in the Arab market context: insights from the Japanese managerial perceptions", Journal of Transnational Management Development, Vol. 8, pp. 53-81.

Bloodgood, J.M., Sapienza, H.J. and Almeida, J.G. (1995), "The internationalization of new high potential ventures: antecedents and outcomes", Frontiers of Entrepreneurship Research, Babson College, Wellesley, MA.

European Commission (2007), "Supporting the internationalization of SMEs", Report of the Expert Group, Unit E.1 Entrepreneurship, European Commission, Brussels.

Madsen, T.K. and Servais, P. (1997), "The internationalization of born globals: an evolutionary process?", International Business Review, Vol. 6 No. 6, pp. 561-583.

Ruzzier, M., Hisrich, D.R. and Antocic, B. (2006), "SME internationalization research: past, present, and future", Journal of Small Business and Enterprise Development, Vol. 13 No. 4, pp. 476-497.

Indian MSME Industry Analysis (ibef.org) Coronavirus (COVID-19): SME Policy Responses - OECD (oecd-ilibrary.org)

3

Innovation Centres in the Contribution of SMEs to the Economy

Halit Targan Ünal, Elif Y. Başaran and Hakan Bektaş

3.1 Introduction

Today, the ability of "Small and Medium-sized Enterprises" (SMEs) to determine their market shares and maintain their competitiveness is directly proportional to their ability to transform an innovative approach into economic value. Globalization and technology have become a driving force in the change and transformation of the ecosystem. SMEs constitute the backbone of local economies, and they can transcend network structures through value exchange and cooperation.

Commercial innovation serves as a gateway for SMEs to connect with new actors and stakeholders outside their ecosystems. The holistic understanding of innovation, on the other hand, does not limit the performance of SMEs in innovation activities only to the scale of the company, but also enables them to transform into economic value in the local and national ecosystem.

The focus of national economic plans on achieving the maximum efficiency of local resources requires new methods and projects. For these reasons, Innovation Centres are gaining further attraction in developing countries development plans.

SMEs are critical to the economic and social development of countries due to their numerous positive qualities such as their ability to adapt quickly to changing market conditions, flexible production

structures, role in regional development and reduction of unemployment, internationalization potential, and contribution to the opening of new business areas (Cansız. M., 2008).

As a result, the globalizing world's pressure on local economies has a direct impact on the dynamics of SMEs existence. Global competition requires SMEs to provide innovative Research and Development (R&D), lean production, strategic marketing, and qualified innovative services in their national and regional industrial activities. Innovative practices have a catalytic effect in increasing the efficiency of companies' products and processes in competitive markets. While international markets create economies of scale, they also provide companies with the motivation to stimulate vitality and industrial innovation. The need for SMEs to expand internationally may stem from local market saturation, as well as the desire to expand the business and enter profitable new markets, foreign exchange attractiveness, and corporate prestige.

Problems in the governance structures of SMEs, their lack of demand for innovative business models, and problems in their marketing strategies and financial decisions threaten their commercial sustainability. SMEs have a more fragile and unstable structure compared to large companies in the fight against the competition, crisis and uncertainty. In strengthening SMEs, a large-scale business culture is structured, including the transformation of managerial ideas, the change of processes, technology support, the development of R&D activities, the follow-up of cost factors, and commercialization breakthroughs.

SMEs develop sub-industry for large-scale companies with the production of raw materials, by-products, and supplies. In addition, due to the fact that SMEs create opportunities for globalization, their strengthening is critical for national economies. SMEs create added value to the protection and development of inclusive capital power, employment data, and the Gross National Product (GNP) growth rates.

SMEs which want to create an advantage in international competitive markets need to integrate resource-based theory, organizational learning theory and social capital theories into their activities. Every company trying to reach the foreign market should develop strategies to adapt to their political, and legal systems as well as to prepare for a new culture (Pisano, Ireland, Hitt and Webb, 2007).

The competitive economy forces companies to engage in innovative activities in all sectors. It is not sufficient to innovate alone in terms of products and services; it is also vital to adapt to the changes imposed by the ecosystem. Innovative business ideas realized at international standards support the transformation into international cooperation. Sectoral development of SMEs, which are the main dynamics of local economies; R&D investments; and meeting the digitalization needs will transform the national value chain into an international resource chain.

3.2 Studies on Increasing Innovation Competencies in the Process of Internationalization of SMEs in Turkey

Since the Republic of Turkey's inception, an economic and social development movement has existed, beginning with agriculture and progressing to industrialization. The first industrialization movement in Turkey started with public investments after Atatürk declared the Republic in 1923. The subsequent years, saw an increase in production and employment possibilities at industrial facilities developed by private investors who benefited from public incentives (Doğan, M., 2013, P.211).

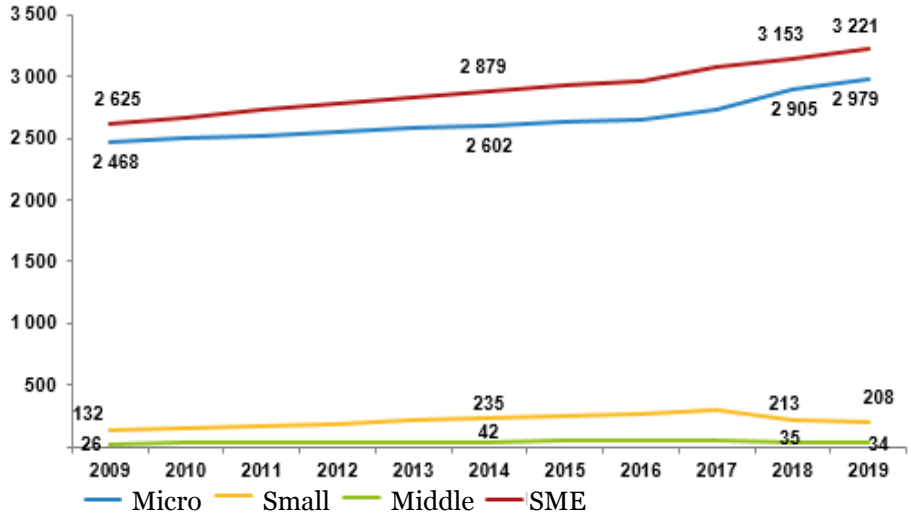
By 1960, it was determined that the industry sector was a pioneer in the planned development. In 1962, the first Organized Industrial Zone (OIZ) was established in Bursa with the objective of achieving economic and social development and long-term growth ambitions. At the time of writing, there are 201 OIZ projects in Turkey covering 34,272 hectares. (T.C. Sanayi ve Teknoloji Bakanlığı, Republic of Turkey Ministry of Industry and Technology) OIZs were established in accordance with law no. 4562 on OIZ with the aim of structuring the industry in suitable areas, preventing unplanned industrialization and environmental problems, directing urbanization, and rational use of resources. (T.C. Mevzuat Bilgi Sistemi, Republic of Turkey Legislation Information System) OIZs play a critical part in the current state of the Turkish economy and industry.

Due to their contribution to the manufacturing industry and their commercial advantages, SMEs in Turkey are located in OIZs, Industrial Estates, Technoparks as well as in any place where they can operate. In Turkey, OIZs continue to operate with the authorization of their establishment in accordance with the laws and provisions of the

Development Plan Law, the Environment Law, the Energy Efficiency Law, the Law on Industrial Zones, and the protection of Renewable Energy Resources.

SME activities in Turkey have been bolstered during the last century by industry, finance, monetary, incentive, and international trade policies, and have made significant development to the present day, transforming OIZs into centres of attraction. OIZs, which contribute to the formation of Industrial and Efficiency economies, are on their way to becoming centres that produce Innovation Economy. Today, cooperation between Chambers of Industry and universities is used in the development of OIZs. In addition, lean production is supported in the industry with the model factories that develop technology and design, where laboratories and application workshops are established.

Figure 3.1 Change in the number of enterprises in SMEs by scale and years (Thousand), 2009-2019, P.3 / 000 (one thousand) Enterprise



Source: TUIK (Turkish Statistical Institute), SME Statistics Report, (2009-2019), P.3

While the number of enterprises in SMEs in Turkey was 2 million 625 thousand in 2009, it increased to 3 million 221 thousand in 2019. When we look at the scale distribution, most enterprises are micro-scale enterprises. The number of startups, which was 2 million 468

thousand in 2009, increased to 2 million 979 thousand in 2019. The number of small-scale enterprises, which was 132 thousand in 2009, increased to 208 thousand in 2019. In medium-sized enterprises, the number of enterprises, which was 26 thousand in 2009, increased to 34 thousand in 2019 (TUİK, Republic of Turkey Turkish Statistical Institute, 2009-2019, p.3). SMEs constituted 99.8% of the total number of enterprises in 2019. However; SMEs also account for 72.4% of employment, 51.8% of personnel costs, 50.4% of turnover, 44.1% of production value, and 44% of factor cost and value-added (TUİK, Republic of Turkey Turkish Statistical Institute).

Turkey is an important transit point of the world trade centre due to its geographical location connecting the Asian and European continents. Anatolian lands constitute the value of Turkey's geopolitical structure, with its four-season climate and its geographical location, surrounded by seas on three sides, and rich in natural resources. In addition to its developed industry, natural underground and surface resources, the wealth of agricultural lands; Turkey has the potential to shape the world economy with its production, service, tourism sectors, qualified workforce, and young population. In Turkey, development organizations under the leadership of the Ministry of Industry and Technology support SME investments with innovative business models that address social and economic needs. These organizations include the Scientific and Technological Research Council of Turkey (TUBITAK), and the Small and Medium Enterprises Development and Support Administration (KOSGEB). The industrial transformation of OIZs, where SMEs are concentrated, within the scope of adaptation to the information, digital society, and innovation economy in Turkey is supported by the United Nations Development Program (UNDP), which operates the Global Development Network. In this context, the “Innovation Centre” pilot project aiming at innovative-based transformation was established in Manisa Organized Industrial Zone (Cansız. M.,2020).

Innovation Centres, whose main functions are to raise awareness, encourage innovation culture, support innovative activities, and create value-added solidarity and cooperation, were established in Adana, Mersin, and İzmir provinces where immigrant populations are high. Spreading the innovation culture in Turkey will increase the added value created by SMEs to the social ecosystem, local and national economy.

While SMEs financial requirements serve as a vehicle for internationalization, their Governance, Marketing, Technology, R&D, Design, Training, and Consultancy needs come to the fore. Today, local companies need expert opinions for each function in which they operate. The globalizing world requires companies to adapt to new paradigms. For this reason, innovation and design considerations have come to the fore in SMEs.

The innovation culture has also changed the traditional central company management approach of SME's. Due to the high innovation ability of SMEs, the impact of the investments to be made gives rapid results. It is seen that the corporate business perspective has developed over time in companies that focus on innovation competencies. The rationalization of the activities of SMEs with innovative investments in Turkey creates the potential to increase their investments in the future as well as protect their current investments.

United Nations Development Program (UNDP)

UNDP is the United Nations global development agency that advocates change and connects countries with knowledge, experience, and resources to help people build a better life (UNDP).

It is an organization that supports solutions to development challenges and builds national and local capacities to help them achieve their human development and sustainable development goals in nearly 170 countries and territories. Three primary areas of focus for UNDP's activities are as follows: 1. Sustainable development, 2. Democratic governance and peace, 3. Climate and disaster risk management solutions. It also promotes gender equality and the protection of human rights in all its activities (UNDP). Aiming to improve local development conditions with its projects that will revive the regional economy, UNDP supports the eradication of poverty and the growth of sustainable economies.

The main purpose of Adana and Mersin Innovation Centres, which were established with the support of UNDP within the scope of the "Resilience Project in Turkey in Response to the Syria Crisis", is to strengthen the productivity, competitiveness, and innovative capabilities of local companies as well as to create innovative sustainable solutions in cooperation with main partners and stakeholders by addressing the goals and challenges of SMEs.

The Importance of UNDP Activities in Turkey in the Çukurova Region

UNDP's efforts to increase the innovation competencies of SMEs in Turkey include the development of areas in their operating regions and social planning, apart from investments in Digital, Governance, R&D, and Human Resources. With a holistic benefit approach of UNDP's development efforts in metropolitan areas, the goal is to rejuvenate the ecosystems surrounding OIZs, Industrial Estates, and Technoparks.

Considering that the innovative class chooses a region instead of a country or city to work and live in, it will be possible to attract the innovative class by creating attraction centres for high-tech production areas. The success of this model depends on the governance structure, the effectiveness of public-private-international cooperation to be established, and the high level of political ownership at both national and local levels. (Cansız, Kurnaz, Çağlar, 2019, P.5) The basis of UNDP's activities in the Çukurova region is the impact of the mass migration movement that took place as a result of the Syrian crisis on the social ecosystem in the region.

The popular movement that started in Syria in March 2011 turned into a major conflict; these developments had a significant effect on regional security and stability, most notably in Syria. The turmoil in Syria, with which Turkey shares a 911-kilometer land border, has forced many Syrians to migrate from their homelands to other parts of the country or to other countries, including Turkey. Additionally, it has placed considerable political, security, and humanitarian responsibilities and difficulties on Turkey (T.C. Dış İşleri Bakanlığı, Ministry of Foreign Affairs of the Republic of Turkey).

Turkey is the country hosting the largest number of refugees in the world. (UNHCR) The number of registered Syrians under temporary protection in Turkey has reached 3 million 690 thousand 896 as of 23 July 2021. (Mülteciler Derneği, Refugees Association) As a result of the crisis experienced, the economic and social balances of the Çukurova region, especially the Hatay province on the Turkey-Syria border, have deteriorated. The unemployment problems caused by the mass migration, the rising rents, and the high cost of living in the region led to the need to support the population in the provinces of Çukurova.

It is hoped that by establishing "Innovation Centres" in Adana Industrial Estate and Mersin Organized Industrial Zone as part of the "Resilience Project in Turkey in Response to the Syria Crisis" which is

being carried out in collaboration with the United Nations Development Program and financed by the European Union and the Turkish Ministry of Industry and Technology the Resilience Project in Turkey in Response to the Syria Crisis will have a positive impact in terms of sustainable development.

Table 3.1 Adana and Mersin/Tarsus Organized Industrial Zones Activities and Advantages

Sectors	Textile, Food, Agriculture, Chemistry, Packaging, Machinery, Energy, Ready-Mixed Concrete, Plastic, Wire Mesh, Construction, Wood, Furniture, Automotive, Aquaculture, Iron and Steel, Forest Products, Greenhouse Systems, Glass Industry, Metal Industry, Petroleum Products, Alcohol & Tobacco Products, Cement, Paper
Logistics	BTC-Ceyhan, Yumurtalık Free Zone, Adana Airport, Mersin Port, Mersin Free Zone, Iskenderun Port, Highway and Railway Connection, Tarsus Çukurova Airport Under Construction
Human Resource	Çukurova University, Adana Alparslan Türkeş Science and Technology University, Mersin University, Cağ University, Tarsus University, Toros University, College, Vocational School, Vocational and Commercial High Schools
Energy	Solar Energy, Natural Gas, LPG
Sustainability	Waste Water Treatment, Green Deal
Organized Industrial Zone Total Employment	35,000 (Adana) + 25,000 (Mersin) = 60,000 Total Employees
Total Number Of Companies in Organized Industrial Zone	452 (Adana) + 240 (Mersin) = 692 Companies in Total
Organized Industrial Zone Total Area	1.590 Hectares (Adana) + 756 Hectares (Mersin) = 2,346 Hectares
Organized Industrial Zone Total Annual Foreign Trade Volume (2020 Year)	Adana 1.008 Billion EURO + Mersin 672 Million EURO = 1,680 Billion EURO

Source: Prepared in line with the data received from Adana and Mersin/Tarsus Organized Industrial Zone administrations. Foreign Trade Volume amounts are calculated over the Central Bank of the Republic of Turkey dated 06.08.2021 USD/EURO parity 0.84.

Adana and Mersin Regional Ecosystem

In the ranking of refugee density in Turkey, Mersin is the 5th province with 12.5% of the population, and Adana is the 6th province with 11.3% of the population, and it consists of registered Syrian citizens who are under temporary protection (Mülteciler Derneği, Refugees Association).

The industrial wealth of the Çukurova region increases the interest of immigrants to these provinces. The complexity caused by the increasing population density with migration requires focusing on the efficiency of social, environmental, and economic resources. In addition, the fact that Adana and Mersin are neighbouring cities, their technology intensity levels are high, and they are supported by innovation ecosystems provide the opportunity to increase industrial efficiency and the development potential of the region.

It is a regional industrial investment centre with its geographical and climate similarity, agricultural productivity, developed industry, and logistics opportunities. Adana Çukurova Technopolis, Adana Metal Works Industrial Site, Adana SUAM "Health Application and Research Centre Technology Transfer Office", Adana Industrial Site, Mersin Free Zone, Mersin Technology Development Zone, Mersin University Technology Transfer Office, Mersin Industrial Site, and SMEs continue their economic and development activities in Incubation Centres. The common mission of these cooperation areas, which have different capacities and specialization areas; is to ensure the formation of high value-added economic mechanisms. The development of SMEs is followed by Chambers of Industry and OIZ Project Support Offices. SMEs producing high volume added value are mostly located in OIZs.

In the pilot studies of Adana and Mersin Innovation Centres, companies with different sectors and volumes were provided with innovation support. Along with training for SMEs, startups, and entrepreneurs, the program aims to establish local innovation networks through a mentor training program that will provide consulting services to program participants.

UNDP-Supported Case Study

The project was carried out with the following activities (UNDP, 2021; UNDP, ADASO, OSB, MTSO):

1. Mentor Training Program: It is aimed to create an innovation mentor pool with a local innovation network. Developing local mentoring capacity will increase the number of participating SMEs.

2. Innovation Needs Map: With the support of project experts, the innovation needs of SMEs were determined. Priority areas of intervention have been identified.

3. Innovation Program: The objective is to foster the development of sustainable innovative business models by providing training that enables SMEs to innovate. Consultancy services and extensive innovation training were provided.

4. Innovation Awareness Development Activities: It is aimed to increase the interaction of stakeholders in Adana and Mersin regions. Thematic webinars and innovative competitions were organized to increase the innovation awareness and interaction of local stakeholders.

Table 3.2 Innovation Roadmap Program Content

Innovative Thinking and Introduction to Innovation	Total Quality Management
Institutionalization for Family Businesses	Strategic Management and Planning
Strategic Management Planning	Design and Product Development
Efficiency and Sustainability	Design Thinking
Branding	Data Analytics
Marketing	Digital Transformation
Supply Chain	Strategic Brand Management
Innovation Financing	Innovation Camp for Managers

5. Creation of an Innovation Roadmap: Roadmaps for the innovation activities of SMEs were determined and action plans were created.

Revealing the competence and development areas of SMEs started with the innovation maturity level measurement. Innovation levels of SMEs constitute an important database for developing strategies on behalf of the ecosystem. It is aimed to increase the capacity of SMEs by organizing innovative technical technological, and business management-focused activities as well as sectoral and personal development activities.

The Innovation Roadmap Program was organized categorizing 3 different groups of companies with different innovation levels.

The trainings given to SMEs are prepared with the contents in Table 3.2. Trainings were given to SMEs by the professionals of the relevant fields in a 6-week program. At the end of the training, it is planned to follow the companies for 6 months by making mentor matching.

3.3 Methodology

In this study, the role of innovation centres in increasing competitiveness and innovative competencies was investigated. In this context, data were collected from the participants of the Innovation Roadmap Program to learn about the views of SMEs involved in the training activities of the "Resilience in Turkey in Response to the Syria Crisis Project" supported by UNDP. The competencies acquired in the primary theme of competitiveness and innovative capability were revealed.

In this study, scanning design, one of the quantitative research methods, was used. In this context, a cross-sectional study was carried out; the frequencies of the analysed variables are presented.

The universe of the study consists of 23 SMEs participating in the training activities of the "Resilience in Turkey in Response to the Syria Crisis Project" supported by UNDP. During the data collection phase, an internet-based survey technique was used, which is one of the electronic survey types; a questionnaire was created using ''Google Forms" at this stage. 15 businesses participated in the study on a voluntary basis. Therefore, the sample size of the study consisted of 15 enterprises. Based on the collected data set; SPSS (version 25) was used to calculate descriptive statistics. The research was not carried out in Turkey with a very comprehensive survey. Since the non-random sampling method is used for the selected companies, generalizations cannot be made based on the results obtained.

To assess the skills acquired during the course of the project, a company information form was used as a data collection tool, and 44 questions and 32 judicial items were included under the themes of Growth with an Innovation Focus, Innovative Thinking and New Product Development, Innovation Leadership, and International Competition. In the preparation of the questionnaire, the Innovation

Centre Mersin study published within the scope of the "Resilience in Turkey in Response to the Syria Crisis Project" supported by UNDP was used. The frequency distribution of the participants according to the variables of gender, age, and graduation degree are presented in Table 3.3.

Table 3.3 Frequency Distribution of Participants Demographic Characteristics

Variable	*Variable Levels*	*Frequency*	*% Frequency*
Gender	Woman	5	33.33
	Man	10	66.67
Age	25 to 29	2	13.33
	30 to 34	2	13.33
	35 to 39	5	33.33
	40 to 44	2	13.33
	45 to 49	1	6.67
	50 to 54	3	20
Graduation Degree	Bachelor	5	33.33
	Master	9	60
	Doctorate (PhD)	1	6.67

Table 3.3 reveals that 66.67% of participants are male, 73.3% are between the ages of 25 and 44, and 66.67% have a postgraduate degree. Additionally, 46.67% of participants hold the position of owner/partner, while 26.67% hold the position of manager.

Within the scope of the project, a total of 23 SMEs; 10 from Mersin Innovation Centre and 13 from Adana Innovation Centre, participated in the Innovation Roadmap Program.

In Table 3.4, the frequencies of the variables to describe the profiles of the companies participating in the survey study are presented. When Table 3.4 is analysed, it is discovered that 73.3% of the companies participating in the study are registered with the Adana Chamber of Commerce, 60% have nine or fewer employees, and 66.67% have been in business for less than ten years. The annual balance sheet total of 53.3% of these companies is less than €300.000.

Table 3.4 Frequency Distribution of Characteristics of Firms

Variable	*Variable Levels*	*Frequency*	*% Frequency*
Chamber of Commerce to which the Company is Affiliated	Adana	11	73.33
	Mersin	4	26.67
The Sector in which the Firm Operates	Information and technology	4	26.67
	Biotechnology	1	6.67
	Service	1	6.67
	Production	3	20
	Building	1	6.67
	Chemical	1	6.67
	Automotive	2	13.33
	Health	2	13.33
Number of Employees of the Firm	0 to 9	9	60
	50 to 249	4	26,67
	250 and above	2	13.33
Age of the Firm	0 to 5	6	40
	6 to 10	4	26.67
	11 to 16	4	26.67
	23 and above	1	6.67

Table 3.5 Perception of the Trainings Received within the Scope of the Project

Dimension	*Number of Items*	*Arithmetic mean*	*Standard deviation*	*Coefficient of Change*
Growth in the focus of Innovation	11	3.5	0.62	17.71
Innovative Thinking and New Product Development	10	3.36	0.69	20.54
Innovation Leadership and International Competition	12	3.45	0.75	21.74

In Table 3.5, the average, standard deviation, and coefficient of change of the responses received as a result of scoring the perceptions

regarding the training received within the scope of the project as 1 (lowest) and 5 (highest) are presented.

As seen in Table 3.5, the dimension with the highest average is "Growth in the focus of Innovation". The components which have the highest average under this dimension are "We have learned about innovative thoughts and innovation management" and "We have learned about creating a customized marketing plan", with an average score of 3.93. By examining the standard deviation and coefficient of variation for this dimension, it is possible to determine that the respondent's opinions are highly homogeneous.

Table 3.6. Test of the Education Meeting the Expectations

Dimension	*Probability Value of Test Statistic (Sig.)*
Growth in Innovation	0.003
Innovative Thinking and New Product Development	0.001
Innovation Leadership and International Competition	0.002

Within the scope of the study, the participants were asked whether the training received met their expectations; data were collected at the nominal measurement level in the form of "yes" or "no". The Mann-Whitney U test, which is one of the parametric hypothesis tests, was utilized to see whether there was a difference between these response groups in terms of the dimensions of "Growth in the Focus of Innovation", "Innovative Thinking, and New Product Development", and "Innovation Leadership, and International Competition". The main hypothesis of this test is that the two populations have the same distribution. In this context, it is tested whether the group medians are equal to each other. It has been tested whether there is a difference of 0.05 significance level between the yes and no groups, which shows whether the participants have achieved their goals with the training they received within the scope of the project, in terms of the dimensions examined; the results are presented in Table 3.6.

The participants of the study were asked to rate the benefit of this training for their company between 1 and 10, and the average of the answers was calculated as 6.53. Along with these scores, the age of the

firm, it's annual budget, and the number of personnel variables were examined. The Correlation was calculated as a measure of covariance among the variables and is presented in Table 7.

Table 3.7 Correlation Coefficient

Dimension	*Spearman Rank Correlation Coefficient*
Age of the Firm	0.446*
Annual Balance Sheet	0.337
Number of employees	0.424

** Statistically significant at the level of 0.10*

When Table 3.7 is analysed, it is discovered that there is a statistically significant relationship between the positive contribution of received training to the company and the company's age. It can be said that there is a similar and moderately strong relationship between these two variables.

3.4 Conclusion and Recommendations

The pilot study of the Innovation Roadmap program of the "Resilience in Turkey in Response to the Syria Crisis Project", financed by UNDP, has been completed and the implementation process of the project continues. The evaluation includes only the results of the pilot study.

In this study, data were collected through questionnaires in order to measure the benefits provided by the companies registered in Adana and Mersin Chamber of Commerce, which participated in the training given within the scope of the "Resilience in Turkey Project in Response to the Syria Crisis". The universe of the study consists of 23 companies in Adana and Mersin included in this project; 15 companies participated in the study on a voluntary basis. Descriptive statistics were reported on the data set collected through the questionnaire, and then Mann-Whitney U test and correlation analysis, which are non-parametric hypothesis tests, were applied. Taking into account the content of the training offered within the scope of the project, the participants were asked to state their opinions as 1 (strongly disagree) and 5 (strongly agree) on the topics of Growth in the Focus of Innovation, Innovative Thinking and New Product Development, Innovation Leadership and International Competition.

In the measurement of perceptions towards Growth in the Focus of Innovation, the achievements of family businesses in institutionalization, marketing strategies, branding, environmental and economic sustainability, creating customer loyalty, reaching new markets, and developing a management strategy in risk and uncertainty conditions were tested. In the measurement of perceptions towards Innovative Thinking and New Product Development; Benefit perceptions about design thinking, innovative business model development, innovative change management, total quality management, intellectual and industrial property rights, new product development (NPD), total quality management, financing of innovation-oriented activities and incentives were tested. In the measurement of perceptions of Innovation Leadership and International Competition; international sectoral developments, customer analysis models, operational efficiency, financial analysis, digital transformation, social media management, online marketing strategies, data analytics in marketing management, export, innovation leadership and the changes and developments in consultancy services provided within the scope of the project were tested. The title with the highest average was determined as Growth in Innovation Focus. It was examined whether there was a difference between the levels of benefiting from education (low and high) groups in terms of the scores in the mentioned titles. According to the findings, it was understood that the companies that stated that they benefited more from the training than they expected differed positively in all titles. Therefore, we can say that these companies benefit in terms of Innovation Focused Growth, Innovative Thinking and New Product Development, Innovation Leadership and International Competition. In addition, it is also among the findings that there is a similar and moderately strong relationship between the level of benefit from the trainings and the age of the company.

The development of SMEs is important in the formation of sustainable economies. Technology aptitude and innovation culture provide the opportunity to open up to foreign markets. Creating local and national resources and empowering SMEs is possible with internationalization. Development agencies should also assume the role of intermediary by cooperating with international platforms for SMEs to access international markets.

Efforts to increase the awareness of the innovation culture of companies should be supported by action plans and implemented in practice and annual long-term follow-up should be made. In order to

spread regional development to the base, the "Resilience Project in Turkey in Response to the Syria Crisis" should be accelerated and more companies should participate. In development projects, university cooperation should be utilized in order to turn innovative ideas into an innovative trend. In order to bring an innovative women's perspective to SMEs, positive discrimination should be made towards women entrepreneurs and women participants. New projects should be produced to support the institutionalization of family businesses.

Due to the differences in the sector, company culture, and innovation needs, the innovation programs of SMEs should be privatized and prepared. Effective action plans should be created for the targets to be determined on a company basis. Specialized projects that will contribute to the sustainable development of regional resources should be developed. At the end of the project, the innovation performance of SMEs should be rewarded with micro-grants, taking into account their financial needs, and the motivation of the companies should be increased. In addition, long-term Innovation Financing support should be provided to SMEs.

Project efficiency is expected to increase in the long term with the activation of the activities of the Model Factories located in Adana and Mersin Innovation Centres and the development of lean production. Much more SME participation is needed in order to see the impact of the project on local development in the medium and long term. For this reason, the "Resilience Project in Turkey in Response to the Syria Crisis" should be accelerated. In order to increase the efficiency of the project, the innovation needs of each participating company should be taken into consideration and a renewal plan should be created in line with the targets to be determined. The employment and economic added value data of the SMEs participating in the project before and after the project should be followed comparatively.

In the online resources used in the study, the websites of public and official institutions were used. With this study, findings and suggestions for the development of SMEs and Innovation Centres were brought to the academy. Along with the innovative performance of SMEs, it is recommended that future research on the efficiency of Adana and Mersin Innovation Centres; monitor employment, economic added values, and balance sheet data and financial developments. Value-added activities to be carried out in the regions where Innovation Centres are established will contribute significantly to sustainable local economic power.

References

AOSB (Adana Hacı Sabancı Organize Sanayi Bölgesi) [Adana Haci Sabanci Organized Industrial Zone], "Rakamlarla OSB". https://www.adanaorganize.org.tr/.

Adana Sanayi Odası and KOSGEB (2018). KOSGEB ve Kobiler Raporu, Adana.

Cansız M., (2008). Türkiye'de Kobiler ve KOSGEB, DPT Uzmanlık Tezi, Ankara. https://sbb.gov.tr/wp-content/uploads/2018/11/MehmetCansiz.pdf

Cansız. M. (2020). Türkiye'de OSB'lerin Dönüşümü Manisa OSB Yenilik Merkezi Tasarımı ve Kurulması, UNDP. https://www.mosb.org.tr/_uploads/2020100613370367.pdf

Cansız, M., Kurnaz Z. and Çağlar E. (2019). 2023'e Doğru Türkiye'de Organize Sanayi Bölgelerinin Dönüşümü, UNDP. https://www.tr.undp.org/content/turkey/tr/home/library/poverty/2023_e-do_ru-tuerkiyede-organize-sanayi-boelgelerinin-doenueuemue.html

Doğan, M. (2013). "Türkiye Sanayileşme Sürecine Genel Bir Bakış" [A General Outlook on the Industrialization Process of Turkey], Marmara Coğrafya Dergisi, Issue: 28, Page. 211-231, İstanbul. https://dergipark.org.tr/tr/download/article-file/3353

KOSGEB (T.C. Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı) [Republic of Turkey Small and Medium Enterprises Development and Support Administration]. KOBİ miyim?, https://www.kosgeb.gov.tr/site/tr/genel/kobimiyim/0/kobimiyim-testi

Mülteciler Derneği [Refugees Association] (2021). "Türkiye'deki Suriyeli Sayısı Temmuz 2021", https://multeciler.org.tr/turkiyedeki-suriyeli-sayisi

Pisano V., Ireland R. D., Hitt M.A., and Webb J. W. (2007). International Entrepreneurship in Emerging Economies: The Role of Social Capital, Knowledge Development and Entrepreneurial Actions. University of Catania, Texas A&M University.

Schwab, K. and Zahidi, S. (2020). The Global Competitiveness Report: How Countries are Performing on the Road to Recovery, Word Economic Forum. https://www.weforum.org/reports/the-global-competitiveness-report-2020

Sungur. O. and Ünlü. H. (2016). "Türkiye'de Sanayi Politikaları ve Sanayi Sektörünün Dönüşümü: Planlı Kalkınma Dönemi Açısından bir Değerlendirme", [Industrial Policies And Transformation Of Industrial Sector In Turkey: An Evaluation Through Planned Development Era], Journal of International Social Research, Volume: 9 Issue: 42

T. C. Merkez Bankası [CBTR], "Gösterge Niteliğindeki Merkez Bankası Kurları", https://www.tcmb.gov.tr/kurlar/kurlar_tr.html

T.C. Dış İşleri Bakanlığı [Ministry of Foreign Affairs of the Republic of Turkey], "Türkiye – Suriye Siyasi İlişkileri", https://www.mfa.gov.tr/turkiye-suriye-siyasi-iliskileri-.tr.mfa,

T.C. Mevzuat Bilgi Sistemi [Republic of Turkey Legislation Information System], Organize Sanayi Bölgesi Kanunu, No: 4562, Resmî Gazete Tarihi: 15.04.2000, İssue: 24021, Volume 39, https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=4562&MevzuatTur=1&MevzuatTertip=5

Türkiye İstatistik Kurumu (TUİK) (2019). KOBİ İstatistikleri Raporu ,(2009-2019), Republic of Turkey Turkish Statistical Institute SME Statistics Report. https://data.tuik.gov.tr/Bulten/Index?p=Kucuk-ve-Orta-Buyuklukteki-Girisim-Istatistikleri-2019-37548,

Türkiye İstatistik Kurumu (TUİK) (2020) Republic of Turkey Turkish Statistical Institute Newsletter, Release Date: 28 Aralık 2020, Issue:37548, P.3, https://data.tuik.gov.tr/Bulten/Index?p=Kucuk-ve-Orta-Buyuklukteki-Girisim-Istatistikleri-2019-37548,

T.C. Sanayi ve Teknoloji Bakanlığı [Republic of Turkey Ministry of Industry and Technology], Organize Sanayi Bölgeleri Hizmetleri. https://www.sanayi.gov.tr/sanayi-bolgeleri/organize-sanayi-bolgeleri-hizmetleri

TUBİTAK (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu) [Scientific and Technological Research Council of Turkey], https://www.tubitak.gov.tr

UNDP (2020). United Nations Development Programme Annual Report 2020 – Page.23, 36

UNDP and ADASO (Adana Sanayi Odası). OSB, MTSO, Mersin Yenilik Merkezleri Yenilik Yol Haritası, Brochure.

UNDP. Frequently Asked Questions, https://www.undp.org/about-us/faqs

UNDP. Suriye Krizine Yanıt Olarak Türkiye'de Dayanıklılık Projesi, [Resilience Project in Turkey in Response to the Syria Crisis], UNDP, PWC, TC Sanayi Bakanlığı, Adana Ticaret Odası, Yenilik Merkezi, Mersin.

UNDP. About Us, https://www.undp.org/about-us/faqs,

UNDP. Birleşmiş Milletler Kalkınma Programı Türkiye, www.tr.undp.org/content/turkey/tr/home/syria-crisis-and-resilience-response.html,

UNDP (2021). UNDP-TUR-RFP (MC1)-2019/2, "Yenilik Merkezleri Kurulumu ve Operasyonelleştirilmesi için Danışmanlık Hizmetleri", Project Presentation.

UNHCR (Birleşmiş Milletler Mülteci Örgütü), "Türkiye'deki Mülteciler ve Sığınmacılar". https://www.unhcr.org/tr/turkiyedeki-multeciler-ve-siginmacilar.

4

Global Trade and Political Risk for SMEs: A Case Study on Supplier Selection

A. Murat Köseoğlu

4.1 Introduction

The increase of globalization has brought international trade to the fore in today's economy. International trade makes a significant contribution to the growth of businesses all over the world (Gujrati, 2015). SMEs are also the main actors of international trade. One of the most notable issues for SMEs in international trade is supplier selection in other countries. Supplier selection is so important for the sustainability of the business in international trade (Cavusgil and Deligonul, 2012).

The process of determining, evaluating and contracting suppliers is called 'supplier selection'. This process plays a so important role in the success of the business. The main purpose of the supplier selection process is to reduce purchasing risk and establish long-term relationships with suppliers. There are different approaches to supplier selection criteria and methods in the literature (Taherdoost and Brard, 2019) In terms of sustainability, the international political policies of countries directly affect global trade. In order to make the activities of SMEs is sustainable in the international arena, SMEs to follow and should be aware of the political relations of the countries with which they plan to trade. Political relations, which can change rapidly due to international interests, SMEs require to determine their supplier selection strategies very well in other countries that they trade (Kobrin, 1979).

The continuance of business is connected to the presence of clients who buy goods or services. Customer satisfaction is the basis of this continuance (Ilieska, 2013). Customers express their dissatisfaction on various platforms. One of the most important reasons that end customer loyalty is unsatisfied customers. Companies, therefore, aim to maintain and continuously increase customer satisfaction (Salim et al., 2018).

SMEs are more likely to invest in markets that political risks are low, their interests are aligned and they have the property rights. Increasing political risks today also increase the likelihood of foreign investors exiting once-promising markets (Pandya, 2016). Relations that are worsening between countries increase the costs of international operations due to strict measures such as tariffs and export controls as well as the uncertainties (Vortherms and Zhang, 2019).

SMEs have to develop risk reduction strategies in their operations due to the increasing international risks. (Lewis and Bozos, 2019). With the increasing political conflicts in the international arena, the necessity to take into account country-specific risks has gained more importance (Xie et al, 2017). The vast majority of international SMEs suffered substantial financial losses in 2018 due to overseas risks. In this context, the study examines how political risks are related to supplier selection in international trade, based on customer complaints.

4.2 Global Trade and Political Risk

In the study conducted in 2018, it was determined that the majority of SMEs with revenues of $ 1 billion or more suffered losses exceeding $ 100 million due to political risk. In an another study conducted in 2019, political risk losses were analysed and five different types identified. These are political violence or forced abandonment, currency transfer restrictions or inconvertibility, trade sanctions or import/export embargo, expropriation or creeping expropriation and sovereign non-payment (Oxford Analytica, 2019).

There has been a relative growth in the world economy in the last years before the pandemic. This growth resulted from the rise in global trade in some way. This growth in international trade has been the consequence of both technological advances and efforts to decrease trade barriers. Some of the emerging countries have opened their

economies to improve chances for economic growth through global trade, but most have not (Gujrati, 2015). Trade walls in industrialized countries have been seen in agricultural products and handmade manufacturing, where emerging countries have a proportional advantage. In these regions, greater trade liberalization, implemented by both industrial and developing countries, helps the poor countries to move far from great poverty, while also profiting developed countries (Cavusgil et al., 2020).

International trade has become increasingly important with the increase of globalization. Especially multinational organizations increase their profitability. In order to make this increase sustainable, a company should be aware of the language, culture, and political risks of the country that it plans to enter with its investment. Global trade is making an increasingly important contribution to economic growth (Bouchet et al., 2003). The policies and laws of the countries, on the other hand, can make global trade easier or more difficult.

Any firm that is in a status of internationalization, if newly established or going on, faces a lot of risks that the most important one is a political one. Political risk analysis is an activity every company that wants to internationalize must do before starting its operations. The implementation of the internationalization decision requires a large investment of money, among other resources. Political events can create consequences that will prevent the generation of profits. The likelihood of these outcomes can be predicted by doing the target country's political risk analysis in advance. In this context, a comprehensive examination of the political actuality of a nation can indicate the failure or success of a project (Bringas 2013).

SMEs try to manage and mitigate future political risk losses based on past political risk losses. Accordingly, SMEs use different methods in valuing political risks when making decisions. Two of the most commonly used methods are to add a risk premium in the form of a Political risk insurance premium or another risk premium to the Discount rate and to perform a scenario or simulation analysis that takes into account extreme risk situations (Oxford Analytica, 2019).

Global trade has reached a significant level of risk due to increased conflicts, hostilities, violence, fraud, and the threat of governments worldwide. Those risks are very important for international trade. Risks have a significant impact on the reorientation or reallocation of resources (Camuffo et al., 2007). It also causes cost increases, supply differences, and changes in investment expectations.

The consequences of this situation on an international scale are the decrease in earnings due to the lessening in commercial transactions, the limitation of expansion, the decline of entrepreneurial incentives, and the slowdown of capital accumulation. For instance, 13 percent of FDI flows declined due to geopolitical worries, policy doubts, and governance problems in 2018 (UNCTAD 2018). It is clear that this new international atmosphere and its consequences affect international trade negatively.

Those internationally rising risks are forcing SMEs to focus more than ever on the identification of risks, risk measurement, and reduction of risks (Lewis and Bozos, 2019). With increasing risks for all businesses, multinational SMEs need to give more care to international and nation detailed risks in international extension (Xie et al, 2017). According to a recent report, more than half of worldwide firms with at least $ 1 billion in revenue made more than $ 100 million losses in 2018 due to external risks. Despite its increasing importance, studies on international trade risks is not sufficient (Cavusgil et al., 2020).

The political risks faced by multinational SMEs are increasing and spreading rapidly. Unfavourable conditions in a market easily affect SMEs in different markets with the global activities of multinational operations. This process creates obstacles to commercial activities all over the world (Caddick and Dale, 1987). Especially, the increasing use of credit at the global level increases the possibility of multinational SMEs to be in commercial difficulties.

Trade wars are quickly spreading beyond tariffs to other areas. These have expanded into lists of organizations limiting the exports, restrictions on foreign investment, and further examination of academic exchange and visas. Therefore, all of these have increased political risks for SMEs engaged in international trade. SMEs doing business internationally are faced with the difficult choice of incurring the costs associated with these risks or reducing losses by exiting a fast-growing market (Vortherms and Zhang, 2019)

According to a study conducted for companies, the worrisome risks for 2020 and beyond are in order of priority; the Middle East regional stability, Populism and nationalism, US-China strategic rivalry, ESG (Environmental, Social and Governance) shock, Immigrant and refugee crises, Disruption of European integration, South Asian instability, Protectionism, US trade policy, and Emerging market financial crises (Oxford Analytica, 2019).

4.3 Supplier Selection

Collaborations in international trade have accelerated globalization in recent years. By the way of the market becomes more global, multinational SMEs that once concentrated on providing local supply are now turning towards global procurement (Acar and Köseoğlu, 2014).

The internalization of a company's supplier-finding action often means creating longstanding commercial relations with unknown and untested international suppliers. Global supplier selection is risky and complex due to uncertainty in global sourcing and lack of initial experience. In addition, many factors that influence supplier selection judgements conflict with each other. For example, the small price of materials procured from a particular international supplier may be due to the company's decreased quality standards or financial uncertainty. Alternatively, procuring an additional progressive technology from an international supplier may require the supplier to bear high prices and high tariffs (Barratt, 2004). These are a few dilemmas of the firm encounters when using suppliers from abroad.

The choice of suppliers in different countries is an important issue due to its important and continuing impact on foreign sourcing. If the choice is wrong, it can end in product costs, commercial lawsuits, poor quality products, shipping postponements, manufacture blockages, trade obligations, and exchange rate rise and falls (Ellram, 1990). Therefore, supplier selection decisions are very important in the international arena and there are many factors that affect the decision.

The most important factor to benefit from international suppliers is high-quality foreign products or services caused by the importance of on-site quality (Min and Galle, 1991). Therefore, the purchaser need to examine whether possible suppliers have a strong commitment to preventing quality errors with certification for rigorous quality assurance. In addition, the buyer should establish a quality crew visit to evaluate the supplier's technical capacity and quality guarantee (Laske, 1992).

Timely delivery is a very important issue in supplier selection. The biggest obstacle to global supplier use is the increase in lead times caused by shipping delays that prevent the effective application of just-in-time production (Shipley, 1991). For timely delivery services, when choosing the most suitable supplier, the span of the supply chain and the ability of the supplier to fulfil their undertaking need to be

evaluated. Also, issues involving tracking or acceleration services should be examined (Min, 1994).

Technical support is another important issue. Fast technological improvements affected the purchased materials and services to become more complex in today's world. In addition, suppliers have begun to take more charge in subcontracted projects, engineering service, sample improvement, research & development, and 3rd party logistics services (Lyons et al., 1990). The capability of suppliers to run the required technical support should also be included in the international supplier selection decisions.

Many global SMEs have begun to improve strategic corporations or treaties with their providers based on longstanding agreements, shared support, collaborative dialogues, and sharing knowledge and risk today (Leenders and Fearon, 1993). Some important features must be considered to maintain long-standing corporations with the supplier. One of them is financial steadiness. Irrespective of price reduction and other savings, the poor financial situation of a foreign supplier will progressively decline the longstanding corporate relationship with the buyer. This is frequently the situation in less developed or developing countries that selected providers in the government sheltered sector take privileged financial credits from the nation or banks. Incidentally, the financial steadiness of the supplier is an important requirement for longstanding corporation programs (Ellram, 1990). Lacking minimizing the contrasts between buyer and seller over a sequence of discussions, the purchaser cannot shape common reliance with the provider due to the escalating conflict between them. If the supplier has a disagreement attitude throughout the negotiation procedure, the longstanding cooperation relationship will be weakened. SMEs need to wisely think through the supplier's negotiation elasticity in building supplier selection decisions.

The prevalence of state interventions is much higher internationally than domestically (Coyle et al. 1998). Some of the examples of government interventions are customs duties, counter-trade, and free trade agreements.

Tariffs and customs duties have appeared as an important topic in this field. While countries want to charm buyers from different nations to improve their economy, importing countries are applying high tariffs to safeguard their national business. Then, even though the General Agreement on Tariffs and Trade (GATT), tariffs (or import duties) are applied to goods and services procured from different nations. As

tariffs or import duties will lead to a significant increase in the purchase value, the buyer needs to attentively review these extra charges beforehand selecting the right supplier (Min, 1994).

Mutual trade is also an important issue in this sense. Mutual trade is an increasing practice worldwide as it benefits to avoid buying in foreign currency and to market goods in less developed countries (Forker, 1992). Under mutual trade contracts, the buyer is obliged to buying a certain proportion of goods or services from the provider's nation in order to meet the offsetting necessities (Fawcett and Magnan, 2001). Therefore, the mutual trade agreement may limit the free selection of the supplier in a global environment.

It is so important to determine the right criteria in supplier selection methods. Because these are the driving factors that determine the growth and competitiveness of the company. For many years, the approach to supplier selection has been to select the suppliers only on the basis of price. However, SMEs have realized that the emphasis on price as the only criterion in supplier selection does not give the right result. For this reason, they have turned to a more comprehensive and multi-criteria approach [16]. According to the literature, there are many supplier selection criteria such as: quality, delivery, performance history, warranties and claim policies, production capacity price, technology and capability, cost, communication system, reputation and position in industry, supplier's profile, management and organization, repair service, attitude, risk factor, commercial plans and structure, labour relations, geographical location, environmental and social responsibility, reliability, service, process improvement, product development, and professionalism. (Taherdoost H., and Brard, 2019)

4.4 Methodology

Diagnostic research studies are concerned with the discovery and analysis of the causes of problems. Then the variables that may cause the problem are examined. In the end, it is tried to diagnose the causes of the problems (Thomas, 2010). It is aimed to diagnose the causes of the customer complaints and analyse them in the study. Afterward, suggestions about the solution were put forward for the identified problem. In this context, the research can be seen as a case study of the operations of a firm based on customer feedback and returns as a starting point.

Case studies are in-depth investigations of a situation. Data is usually collected from a variety of sources and using several different methods. So data collection and analysis methods that will produce appropriate material need to be selected. In the study, the structured interview method is used with the focus groups for data collection to point to the subject and to have a good understanding of the problems. Additionally, the structured observation technique, which works according to a plan and includes specific information about the departments to be observed, is also used (Kabir, 2016)

In the case that examined, the customs clearance, storage, distribution, service, and returns operations of the spare part materials of the main product produced by a company belonging to country A (developed economy), are carried out in-country C (economy in transition), by a company belonging to country B (developing economy). Country A's Company has determined that customer complaints about the supply and distribution of spare parts in Country C have increased by a 25% in the last six months. In addition, main product returns are increased by 15% due to those customer complaints.

The analysis of the data was done by focusing on describing and explaining each case as a whole in itself. The configurations, dynamics, sequences, and themes occurring in each case were examined. Through this internal analysis, each case was understood on its own terms, and then an inter-case analysis is made. In the case-by-case analysis, each case is used as a building block to create some kind of case synthesis. (Bruscia, 2005).

The customer complaints and reasons for return were examined and analysed firstly during the meetings with the managers of the Customer Relations Management Unit of the main product manufacturer company belonging to country A within this context. Later, the main reasons for his complaints were determined. The customs clearance and distribution operations came to the fore as the main two reasons. Regarding these prominent activities, individual meetings were held with the operation managers of the company belonging to country B. Lastly, customer complaints and information obtained from the managers during the meetings were compared with field operation data and analysed.

4.5 Results

The main product manufacturer based in the country A, a company made a supplier agreement with a company belonging to the country B to carry out the operations such as import, tax payments, customs clearance, storage, and distribution services in the country C. There has been a 25% increase in customer complaints and a 15% increase in product returns in services that have been running by the company in the last six months. In this context, the study has been initiated to search and find solutions to the problems experienced by customers.

The current process examined at first in the study. The country A, which is the main product manufacturer, works also with the company belonging to the country B for its stores in other countries of Europe in the current process. According to the agreement made, the country B, which brings the spare parts to the country C by a plan from its own country, has to complete the import, tax payments, customs clearance, and storage procedures and deliver the spare parts to the customer within maximum 10 working days. During the operation process, the company belonging to country B was following its own stock and importing orders in line with the customer needs through the contracted customs firm. However, in the current process, have disruptions in the workflows as the delivery and delivery times were prolonged, which resulted in the lack of products in the stores and increased customer complaints.

In the current system, it was determined that the company experienced some problems in the workflow of the related operations. The company was getting only customs clearance service from the customs firm worked with. Since there is only the bill of lading attached to the arrival notices of the materials coming to the customs, the content of the invoices and therefore the incoming material can be learned again by asking the main manufacturer company, and this process caused the customs process to start late at the first stage.

When the customs clearance started, it was an important problem that the transactions took significantly longer than normal. While these processes lasted between 2-4 days in the periods before the complaints started, it increased to 8-16 days in the current situation. The materials whose customs procedures completed and taxes paid were getting to the warehouse with the shipping company agreed by the company. The materials received are counted and later entered into the SAP program and taken to the stock. The products taken to the warehouse were

prepared by the warehouse personnel according to the order instructions from the main manufacturer and sent to the stores of the main manufacturer company the following morning with the vehicle supplied from the shipping company.

The time planned by the country B company for the completion of the import procedures of the materials coming to customs and to be put into the warehouse was 4 working days per lot. However, in the process analysis and calculations made in the field, it was determined that this period was between 10 to 15 days on average. Within the scope of all information and the data obtained from customer complaints and manager meetings were analysed by comparing them with field operation results. It has been determined that the main reason for the problems in the operations of the country B company, which is responsible for the operations of the products in the country C, is the customs clearance procedures that take longer than normal.

4.6 Conclusion

Today, international trade is increasing rapidly. Customer satisfaction is some important criteria for the success of international trade. Choosing the right supplier is an important indicator of customer satisfaction, especially in delivery processes. The choice of suppliers in other nations for SMEs is an important process because of its important and longstanding effect on global sourcing. As the choice wrong, high material costs, commercial lawsuits, poor quality products, shipping interruptions, manufacturing blockages, customer losses, counter-trade responsibilities, and exchange rate rise and falls are just some of the difficulties that the company may face (Soukup, 1987).

Therefore, international supplier selection decisions must be made very carefully. The reason is that it consists of a lot of strictly related choices related to funding, discussions, distribution, supplies, and manufactured goods quality assurance (Weber and Current, 1991).

Due to the huge quantity of reasons influencing the judgments, the decision must be made in a regular sequence of steps. One of the most important of these factors is the bureaucratic policies and procedures that governments can use to deter imports for any reason by making an entry or transactions more difficult and time-consuming (Yin, 2014).

As the result of the research, it was determined that due to the political reasons between the country C and the country B, country C intentionally slowed down the customs procedures of the SMEs belonging to country B. Consequently, it was evaluated that it would be a solution for the main company belonging to country A to work with a third-party logistics company whose country of origin is the C, in order to prevent losing its market and solve the customs clearance problems in the country C. However, some SMEs can be protected from these negative effects of geopolitical struggle by applying some other strategies also. First, firms established in the host market may have enough resources and motivations to circumvent political risks. Second, international agreements that protect foreign investors help offset the increased risks when diplomatic relations are disrupted (Vortherms and Zhang, 2019).

References

Acar A. Z., Köseoğlu, A. M. (2014). Lojistik Yaklaşımıyla Tedarik Zinciri Yönetimi, Nobel Academic Publishing, September, ISBN:978-605-133-953-5

Anderson, E.W., Fornell C., Lehmann, D.R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. Journal of Marketing, 58 (3): July: 53-66.

Barratt, M. (2004). Understanding The Meaning of Collaboration in The Supply Chain, Supply Chain Management: An International Journal. 9(1), 30-42.

Bouchet, M.H., Clark E., Groslambert B. (2003). Country Risk Assessment: A Guide to Global Investment Strategy. Hoboken, NJ: Wiley Finance Series.

Bringas, N. R. (2013). Negocios Y Política En América Latina: El Riesgo Politico Como Factor Imponderable Para Los Inversionistas, European Scientific Journal, 9 (4), 158-179.

Bruscia, K. (2005). Data Analysis in Qualitative Research, Barcelona Publishers

Caddick, J.R., Dale, B.G., (1987). Sourcing from Less Developed Countries: A Case Study, Journal of Purchasing and Materials Management, Vol. 23 No. 3, 17-23.

Camuffo A., Furlan A., Rettore, E. (2007). Risk Sharing in Supplier Relations: An Agency model for The Italian Air-Conditioning Industry. Strategic Management Journal. 28(12), 1257-1266.

Cavusgil, S. T., Deligonul, S. (2012). Exogenous risk analysis in global supplier networks: Conceptualization and Field Research Findings, Information Knowledge Systems Management 11, DOI 10.3233/IKS-2012-0177 IOS Press, 131–149.

Cavusgil, S.T., Deligonul S., Ghauri P.N., Bamiatzi V., Park B. and Mellahi K. (2020). Risk in International Business and its Mitigation, Journal of World Business 55 101078, 1-6.

Coyle, J.J., Bardi E.J. and Langley, C.J. Jr. (1998). The Management of Business Logistics, 4th ed., West Publishing Company, St Paul, MN

Ellram, L.M., (1990). The Supplier Selection Decision in Strategic Partnerships, Journal of Purchasing and Materials Management, Vol. 26 No. 4, 8-14.

Fawcett, S.E., Magnan, G.M. (2001). Achieving World-Class Supply Chain Alignment: Benefits, Barriers, And Bridges. Centre for Advanced Purchasing Studies, Arizona State University, Tempe.

Forker, L.B., (1992). Purchasing's Views on Countertrade, International Journal of Purchasing and Materials Management, Vol. 28 No. 2, 10-19.

Gujrati, R. (2015). The role of International Trade in the Global Economy & Its Effects On Economic Growth, International Journal of Innovative Science, Engineering & Technology, Vol. 2 Issue 7 July, 453-462.

Ilieska, K. (2013). Customer Satisfaction Index-as a Base for Strategic Marketing Management. TEM Journal, 2 (4), 327-331.

Kabir, S. M. S. (2016). Basic Guidelines for Research: An Introductory Approach for All Disciplines, First Edition, Book Zone.

Kobrin, S.J. (1979). Political risk: A review and Reconsideration. Journal of International Business Studies. 10(1), 67-80.

Leenders, M.R. and Fearon, H.E. (1993). Purchasing and Materials Management, 10th ed., Richard Irwin, Homewood, IL,

Laske, W.F. (1992). Basic to the Global Procurement Process, NAPM Insights, Vol. 3, 4-5.

Lewisa, Y., Bozos, K. (2019). Mitigat ng Post-Acquisition Risk: The Interplay of Cross-Border Uncertainties, Journal of World Business Volume 54, Issue 5 100996 November, 1 – 16.

Lyons, T.F., Krachenberg, A.R. and Henke J.W. Jr. (1990). Mixed Motive Marriages: What's Next for Buyer-Supplier Relations? Sloan Management Review, Vol. 31 No. 3, 29-36.

Min, H. (1994). International Supplier Selection: A Multi-Attribute Utility Approach., International Journal of Physical Distribution & Logistics Management, Vol. 24 Issue: 5, 24 – 33.

Min, H. and Galle, W.P. (1991). "International Purchasing Strategies of Multinational US Firms", International Journal of Purchasing and Materials Management, Vol. 27 No. 3, 9-18.

Oxford Analytica (2019). How Are Leading SMEs Managing Today's Political Risks? Survey and Report for Willis Towers Watson.

Pandya, S. (2016). Political economy of Foreign Direct Investment: Globalized Production in the Twenty-First Century. Annual Review of Political Science, 19, 455–475.

Salim, A., Setiawan M., Rofiaty R., Rohman, F. (2018). Focusing on Complaints Handling for Customer Satisfaction and Loyalty: The Case of

Indonesian Public Banking, European Research Studies Journal, XXI (3), 404-416.
Shipley, J.P. (1991). MAPI Survey on Global Sourcing as a Corporate Strategy: An Update, MAPI Economic Report, Vol. ER-207, 1-19.
Soukup, W.R. (1987). Supplier Selection Strategies, Journal of Purchasing and Materials Management, Vol. 23 No. 2, 7-12.
UNCTAD (2018). World Investment Report, Geneva: United Nations. Retrieved September 25 2019 https://unctad.org/en/PublicationsLibrary/wir2019_en.pdf.
Taherdoost H., Brard A. (2019), Analyzing the Process of Supplier Selection Criteria and Methods, The 12th International Conference Interdisciplinarity in Engineering,
ScienceDirect, Procedia Manufacturing 32, 1024–1034.
Thomas G. (2010). Social Work Research, School of Social Work, ISBN: 978-81-266-4773-6, Indira Gandhi National Open University.
Xie, E., Reddy, K.S., Liang, J. (2017). Country-Specific Determinants of Cross-Border Mergers and Acquisitions: A Comprehensive Review and Future Research Directions, Journal of World Business 52, 127–183.
Yin, R. K. (2014). Case Study Research Design and Methods (5th ed.). Thousand Oaks, CA: Sage.
Vortherms, S., Zhang J. J. (2019). Political Risk and Firm Exit: Evidence from the US-China Trade War, 21st Century China Center Research Paper No. 2021-09.
Weber, C.A., Current J.R. Benton W.C. (1991). Vendor Selection Criteria and Methods, European Journal of Operational Research, Vol. 50 No. 1, 2-18.

5

Internal Factors and Networking – Critical for Success of SMEs in International Markets: Practical Implications in a Reference SME

Tanja Evrosimovska

5.1 Internal factors critical to the success of SME internationalization

Internal success factors are the ones that depend on the internal organisation of the company and include entrepreneurial skills, resources, firm characteristics, and competencies of the company (Bell et al. 2007; Senik et al. 2014). Entrepreneurial attitude is one of the most important success factors of international SMEs. Entrepreneurs and top managers must be risk takers, proactive, aggressive, self-motivated, with a strong interest to extend the business overseas, a vision to think globally and be highly flexible towards the global market (Senik et al. 2014). Debrulle and Maes (2015) confirm that a major determinant of the intensity of internationalisation and the age at first internationalization entry is entrepreneurs' human capital (Debrulle & Maes 2015). The internationalisation process is comprehended as a risk-taking process and thus it is certainly an act of entrepreneurship, as entrepreneurship is "the propensity to act autonomously, the willingness to innovate and take risks, the tendency to be aggressive toward competitors and proactive to market opportunities" (Ketkar & Zoltan, 2013 p. 205). Such entrepreneurs or strong individuals are capable of quickly scanning the foreign markets and gaining successful internationalisation of their companies (Yamakawa et al. 2008).

International experience is highly recommended and present among companies that are successful in their internationalisation process. The entrepreneurs or top managers of such successful enterprises have been exposed to foreign cultures and markets, have had prior experience in international trade, and broad experience in various international fields (Senik et al, 2014). There is extensive research regarding the correlation between the international experience of entrepreneurs or top managers and the international success of the company (Reuber & Fischer, 2007).

In continuation to the international experience as a significant contributor to successful internationalisation of SMEs, we need to consider the phenomenon of returnee entrepreneurs and their international experience. Filatotchev et al (2009) were the first ones to research the role of returnee employees when they return to an emerging country, open their SMEs and greatly contribute with their international experience from the country where they lived for a certain time period (Filatotchev et al, 2009).

Furthermore, a global mindset is also a highly important success factor for SME internationalisation. Global mindset is the managers' openness to and awareness of cultural diversity, their ability to address it and their capacity to function effectively in highly complex business environments internationally (Andresen & Bergdolt, 2017). Torkkeli, Nummela and Saarenketo (2018) examined global mindset, decision-making logic, SME internationalisation and SME performance on a cross-sectional sample of Finnish SMEs and highlighted that global mindset is linked to both effectual decision-making and enhanced international performance (Dominguez & Mayrhofer, 2018).

Hagen and Zucchela (2018) discuss that entrepreneurial marketing is a key driver of early and sustained internationalisation, and that little work has been done thus far to understand the role of marketing to the internationalisation of new SME ventures. Their analysis indicates that significant attribution and attention has been given to niche strategy, competitive advantages such as innovation, product quality, technology, psychic distance, networks, and partnerships, yet entrepreneurial marketing has been neglected as one of the key drivers for superior international performance (Dominguez & Mayrhofer, 2018). Entrepreneurial marketing is an emerging issue in the internationalisation of SMEs. The role of marketing is incorporated in several core business processes, essential for successful internationalisation (Dominguez & Mayrhofer, 2018).

The available resources of a company are consequential factors for success in international markets: unique resources, advanced technology, skilful personnel, financial availability, and good working culture (Senik et al, 2014). Among available resources, technological advancement is essential for a company to succeed domestically, and even more so in foreign markets. Olejniczak and Debicka (2020) in their research study of over 450 Polish SMEs concluded that companies active in foreign markets are more than twice as likely to have undertaken technologic improvements, than companies present only in domestic markets. "Technologies change rapidly, thus internationalised recognised certification and constant development of high-tech products help us to maintain the competitive advantage" (Sekliuckiene, 2015, p. 334). Therefore, internal factors are critical to the success of companies in international markets.

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5.3 Networking as a critical success factor for internationalization of SMEs

One of the most important factors for successful internationalisation of SMEs as compared to MNEs is networking. Many scholars have researched the networking occurrence, that is, the inter-connection of the firm with its foreign partners, customers, and suppliers, as the most significant success determinant in internationalisation (Sekliuckiene et al 2016, Johanson & Vahlne 2009,). In the process of new product creation, companies tend to use their internal resources, however when foreign markets are considered, then SMEs are encouraged to include international networks to gain external knowledge (Sekliuckiene et al 2016).

Networking can have different forms, such as strategic alliances, joint ventures, licencing agreements, subcontracting, joint R&D and joint marketing activities (Shirec & Bradach, 2009). Joint ventures have been one kind of networking used by SMEs in successful internationalisation. International joint ventures have often been used as an entrance strategy by companies from developed countries, including small and medium sized companies, but often when it was requested by the foreign country regulations. Another form of networking for successful internationalisation of SMEs, especially from developing countries, have been cluster supply chains. Huang and Xue (2012) studied the benefits of cluster supply chains specifically for SMEs in China, including their internationalisation processes. Various forms of clusters have been evident throughout countries. Varga et al. (2013) investigated the influences of innovation clusters on the SMEs development process.

In furtherance to the above argument, another form of networking has been incorporating the customers, suppliers, higher education institutions, research laboratories, public organisations, clusters, public groups, and communities in the innovation process by adopting open innovation strategies that could also greatly assist the internationalisation process (Sekliuckiene et al, 2016). Although most researchers have devoted their work to multinationals benefiting from the open innovation approach, recent studies indicate that open innovation is even more significant for SMEs, due to less bureaucracy, increased willingness to take risks, and accelerated ability to change in accordance with the fluctuating or varying environment, which would imply internationalisation processes as well (Sekliuckiene et al, 2016). Therefore, various forms of international networking exist, and SMEs should be open minded and embrace as many forms as possible to successfully enter foreign markets.

Governmental networking activities that support exports have been highly valued for successful growth of SMEs in foreign markets, as well. The Senik study et al (2014) found that all researched SMEs used government and non-governmental institutions in their internationalisation process, using either governmental agencies, participating in international exhibitions organized by governmental bodies, taking part in various linkage programs or networks of governmental organisations, and acquiring support from Embassies (Senik et al, 2014).

Just as importantly, social personal networking is also a form of networking that can assist internationalisation. Lianxi Zhou (2007) and several other scholars researched social informal networking in national frames in Chinese born-global SMEs and argued that even such social networking domestically should be considered by business managers as an efficient means for internationally oriented SMEs (Zhou et al, 2007). Social networking and personal connections assist newer, international entrepreneurial SMEs in emerging economies like China to venture internationally more rapidly and profitably (Zhou et al, 2007; Peng & Luo, 2000). Senik at al. (2014) also concluded that most researched SMEs (81%) in their study used personal relations when going abroad with their activities, by creating networks with locals that live in the host countries and maintaining networks with friends, families, and relatives. Therefore, any form of international networking should be one of the first considerations of SMEs in their expansion into foreign markets.

5.4 Practical implications of internal success factors to successful internationalization of a single case study

This section will include my personal experience as practitioner in a successful international SME and will present the practical implications of both the internal success factors and networking over the internationalisation process. For over 20 years, I have been a part of the internationalization process of an SME. Initially, I was an international sales co-ordinator for 10 years, and then general manager of the company's affiliated businesses in several foreign markets. PAPAPOSTOLOU Healthcare Technologies, founded in 1914, is the oldest and largest medical equipment supplier in Greece, with long-standing experience and history. The company is highly specialized in the sales and service of medical equipment, installation, product training, maintenance, etc. and is a distributor of many global leaders - manufacturers of medical equipment from Germany, USA, Japan, France, UK, Italy, etc. Over the course of the last 20 years, the company enlarged its market, launching companies in Romania, North Macedonia, Bulgaria, and Serbia. Gradually, it has become a regional leader for distribution and service of medical equipment, known for its expertise, professionalism, and quality.

The strong entrepreneurial spirit of the family governing the business for the last three generations has been one of the most significant factors of success for the company, both nationally and internationally. Great ambition, intelligently scrutinizing the market for future opportunities, continuous hard work and a devoted mission towards success of the company have demonstrated the competence embroidered in the family. This entrepreneurial spirit spread to all the managers as well.

Furthermore, international experience, not only of the entrepreneurs of the company, but of the top managers, is a critical success factor as well. The company substantially invests in the education and trainings of the whole team, most often in international centres of excellence, reference centres of the manufacturers, international fairs, congresses, exhibitions, and international business delegations. The added value of this international experience is professionalism, knowledge, expertise, and the ultimate successful internationalization of the company.

In addition, the phenomenon of returnee entrepreneurs/managers is also a case, where these employees have contributed greatly with the knowledge and experience gained in the foreign countries they resided, worked, or were educated in. The global mindset has also been a leading force in the management of PAPAPOSTOLOU Healthcare Technologies Group. The entrepreneurs have always been open and aware of cultural diversity, which is especially present in the Balkan region, and were always able to address complicated international business situations.

Finally, the group can proudly declare that the available resources, namely financial stability, and advanced technology, are among the topmost important factors that aided in researching foreign markets, opening foreign companies, and investing in them the first few years with losses and/or on the breakeven points. Many times, the daughter companies have used the financial stability of the company in winning bigger projects.

5.5 Practical implications of networking to successful internationalization of a single case study

Networking is highly valued in the company and appreciated at all levels. Networking has been embroidered in each employee's behaviour since commencing work at the company. The entrepreneurs and top managers have been part of many business and governmental delegations to foreign countries and have used various governmental activities towards exporting and internationalizing in specific regions. They are members of many chambers of commerce that assist companies and are greatly utilising the activities of these chambers.

In the healthcare and medical industry, international conferences and exhibitions are greatly respected by the medical community. Networking at such events is a common practice by all members of the group. Repeatedly, the company organizes workshops, most often in advanced medical technologies and innovations. Such activities are welcomed by the medical community, even more so in cases when they are accredited by an international or domestic medical association. Networking at such workshops has great results, as well.

Furthermore, the company uses networking to enlarge its customer list by co-operating with many companies, such as construction

companies and IT companies. This enables the company to deliver complete solutions or accomplish turn-key projects.

Finally, personal, and social networking are always welcomed by the company, especially in small communities and countries where it operates. Socially responsible activities and donations are a conventional practice, as well. This adds importance to the positive branding and awareness of the company in the overall communities.

5.6 Conclusion:

This abstract has been derived from research for an ongoing thesis that studies the critical success factors for SME internationalization and gives practical insights from a single case study. The thesis will use case study methodology and will analyse twelve companies from four countries, both developing and developed nations, and will compare the success factors. The outcomes of the study will contribute to theory, practice and methodology. The results will develop propositions and identify areas for further research and will contribute to both micro and macroeconomic theories; they will be significant for entrepreneurs and managers of SMEs to assist them in successful internationalization of their companies, and significant for government officials to assist them in developing national strategies to boost exports; and the results will provide the possibility to use the applied method to replicate the study in any developed and developing country in the future, and the possibility to use the applied method to replicate the study in any other industry.

References

Andresen, M., & Bergdolt, F. (2017). A systematic literature review on the definitions of global mindset and cultural intelligence – merging two different research streams. International Journal of Human Resource Management, 28(1), 170–195. https://doi.org/10.1080/09585192.2016.1243568

Baum, M., Schwens, C., & Kabst, R. (2011). A Typology of International New Ventures: Empirical Evidence from High-Technology Industries. Journal of Small Business Management, 49(3), 305–330. https://doi.org/10.1111/j.1540-627X.2011.00328.x

Bell, J., McNaughton, R., Young, S., & Crick, D. (2003). Towards an Integrative Model of Small Firm Internationalisation. Journal of

International Entrepreneurship, 1(4), 339–362. https://doi.org/10.1023/A:1025629424041

Debrulle, J., & Maes, J. (2015). Start-ups' Internationalization: The Impact of Business Owners' Management Experience, Start-up Experience and Professional Network on Export Intensity. European Management Review, 12(3), 171–187. https://doi.org/10.1111/emre.12050

Filatotchev, I., Liu, X., Buck, T., & Wright, M. (2009). The Export Orientation and Export Performance of High-Technology SMEs in Emerging Markets: The Effects of Knowledge Transfer by Returnee Entrepreneurs. Journal of International Business Studies, 40(6), 1005–1021.

Huang, Biqing & Xue, Xiao. (2012). An application analysis of cluster supply chain: A case study of JCH. Kybernetes. 41. 254-280.

Johanson, J., & Vahlne, J.-E. (2009). The Uppsala Internationalization Process Model Revisited: From Liability of Foreignness to Liability of Outsidership. Journal of International Business Studies, 40(9), 1411–1431.

Ketkar, S., & Acs, Z. J. (2013). Where Angels Fear to Tread: Internationalization of Emerging Country SMEs. Journal of International Entrepreneurship, 11(3), 201–219.

Kyvik, O., Saris, W., Bonet, E., & Felicio, J. A. (2013). The Internationalization of Small Firms: The Relationship between the Global Mindset and Firms' Internationalization Behavior. Journal of International Entrepreneurship, 11(2), 172–195.

Noémie Dominguez, & Ulrike Mayrhofer. (2018). Key Success Factors of SME Internationalisation : A Cross-Country Perspective. Emerald Publishing Limited.

Nummela, N., Saarenketo, S., & Puumalainen, K. (2004). A Global Mindset--A Prerequisite for Successful Internationalization? Revue Canadienne Des Sciences de l'Administration/Canadian Journal of Administrative Sciences, 21(1), 51–64.

Olejniczak, K., & Dębicka, A. (2020). Selected Features of Small and Medium-Sized Enterprises Related to International Entrepreneurship: An Empirical Analysis. Research Papers of the Wroclaw University of Economics / Prace Naukowe Uniwersytetu Ekonomicznego We Wroclawiu, 64(6), 153–167. https://doi.org/10.15611/pn.2020.6.12

Oviatt, B. M., & McDougall, P. (1995). Global start-ups: Entrepreneurs on a worldwide stage. Academy of Management Executive, 9(2), 30–43. https://doi.org/10.5465/AME.1995.9506273269

Peng, M. W., & Luo, Y. (2000). Managerial Ties and Firm Performance in a Transition Economy: The Nature of a Micro-Macro Link. Academy of Management Journal, 43(3), 486–501. https://doi.org/10.5465/1556406

Reuber, A. R., & Fischer, E. (2007). The Influence of the Management Team's International Experience on the Internationalization Behaviors of SMEs. In B. M. Oviatt & P. P. McDougall (Eds.), International Entrepreneurship (pp. 413–431). An Elgar Reference Collection.

International Library of Entrepreneurship series, vol. 8. Cheltenham, U.K. and Northampton, Mass.: Elgar.

Sekliuckiene, J. (2015). International Entrepreneurship: Linking Entrepreneurial Motivation, Orientation and Network Relationship. Amfiteatru Economic, 17(38), 327–341. https://doi.org/http://www.amfiteatrueconomic.ro/Arhiva_EN.aspx

Sekliuckiene, J., Sedziniauskiene, R., & Viburys, V. (2016). Adoption of Open Innovation in the Internationalization of Knowledge Intensive Firms. Engineering Economics, 27(5), 607–617. https://doi.org/10.5755/j01.ee.27.5.15371

Senik, Z. C., Isa, R. M., Sham, R. M., & Ayob, A. H. (2014). A Model for Understanding SMEs Internationalization in Emerging Economies. Jurnal Pengurusan, 41, 25–42. https://doi.org/10.17576/pengurusan-2014-41-03

Širec, K., & Bradač, B. (2009). How does Networking Impact the SMEs Growth. Organizacija, 42(2), 59–66. https://doi.org/10.2478/v10051-009-0003-4

Varga, S., Vujisic, D., & Zdravkovic, M. (2013). State aid for innovation clusters in the Republic of Serbia. International Journal of Public Sector Management, 26(2), 102–110. https://doi.org/10.1108/09513551311317960

Yamakawa, Y., Peng, M. W., & Deeds, D. L. (2008). What Drives New Ventures to Internationalize from Emerging to Developed Economies? Entrepreneurship: Theory & Practice, 32(1), 59–82. https://doi.org/10.1111/j.1540-6520.2007.00216.x

Zhou, L., Wu, W., & Luo, X. (2007). Internationalization and the Performance of Born-Global SMEs: The Mediating Role of Social Networks. Journal of International Business Studies, 38(4), 673–690.

6

The importance of performance and credit access of SMEs in their internationalization process

Mehmet Civelek

6.1 Introduction

Nobody can ignore the crucial role of SMEs that they play in the development of national economies especially for productivity, export and labour creation. For instance, Turkish SMEs created 72.4% of total employment and 36.6% of total export and 21.6% of total imports in Turkey in a year (TUIK, 2019). Some SMEs also internationalize to enlarge their operations abroad. SMEs are generally family owned companies in many countries, and internationalization enables them to increase their production capacity and product range while they aim to fulfil the demands of foreign consumers (Hadryś-Nowak, 2018).

When economic crisis exists in a domestic market, businesses can also try to access to new markets to overcome the negative outcomes of crisis (Okafor, Bhattacharya, & Apergis, 2020). But since firms make their operations in global markets, they face with more barriers such as the existence of cultural, political, legal and economical differences of various countries (Hadryś-Nowak, 2018) and costs of exporting (Okafor, Bhattacharya, & Apergis, 2020). In this regard, their bank credit access enables them to bear those costs and make more investments for their internationalization activities. Although, internationalization obstacles might be reduced by credit access, access to bank finance is also one of the major concerns in survival of SMEs since they face with several barriers when receiving bank credits.

In this regard, financial performance of SMEs might enable to have get easier bank credit access. Since firms that have indicate better performances, are usually profitable firms with higher sales, they are more able to payback their credit instalments. Thus, they have lower default risks comparing with firms having lower financial performance (Wasiuzzaman, & Nurdin, 2019). SMEs that have better financial performances are also more likely to seek (McCarthy, Oliver, & Verreynne, 2017) and to access to bank finance (Chandrayanti, Nidar, Mulyana, & Anwar, 2020; El-Said, Al-Said, & Zaki, 2013). The positive relationship between performance and access to finance is also substantiated by some researchers (Yang, Li, Kong, & Kong, 2020; Chandrayanti, Nidar, Mulyana, & Anwar, 2020).

When looking from the banks' perspective, firm performance also signals firm credibility since it gives financial details about firms that have applied for credit. Thus, giving financial information makes firms to reduce information asymmetry and provides easier credit access for them (Chandrayanti, Nidar, Mulyana, & Anwar, 2020; Yildirim, Akci, & Eksi, 2013). Therefore, the purpose of this chapter is to examine the impacts of firm performance on bank credit access of SMEs. But this chapter also aims to find out whether firm size, age and legal form are determinant factors for bank credit access of financially well performed SMEs or not. In line with this selected purpose, the research questions can be set as follows: Do age, size and legal form of better performed SMEs enable them to have more bank credit access comparing with their underperformer counterparts?

To analyse financial performance of SMEs, this chapter considers the net profit of SMEs over the last 5 years. This approach has been also applied by some studies when evaluating performance of businesses (Wasiuzzaman, & Nurdin, 2019; Chandrayanti, Nidar, Mulyana, & Anwar, 2020). Although some studies analyse the impacts of firm age, size (Arndt, Buch, & Mattes, 2012; Okafor, Bhattacharya, & Bloch, 2017) and legal form (Yildirim, Akci, & Eksi, 2013; Wasiuzzaman, & Nurdin, 2019) on export performance, internationalization, credit access and performance of businesses, separately, this chapter differs from them by analysing the impacts of those firm-level characteristic with performance of SMEs on bank credit access of SMEs. By doing so, this chapter fulfils the research gap and makes a value addition for academic literature.

The rest of the chapter is structured as follows: Section 2, Literature Review and Development of Hypotheses gives details about previous

studies in this research topic and provides some information about theoretical basis. Section 3, Methodology, elucidates the approaches that the researcher follows regarding the data collection, analyses, and research sample. Section 4 clearly explain the results and highlights hypotheses testing. Section 5, Discussion, provides the prospective reasons of the research results and suggest some policy implications. In last section, the researcher concludes the study by emphasizing the most important points of the research and presenting limitations and suggestions for further studies.

6.2 Literature Review and Hypotheses Development

Considering size, performance and access to bank finance, many studies highlight the importance of information asymmetry in the relationships between those variables (McCarthy, Oliver, & Verreynne, 2017; Rahman, Rahman, & Belas, 2017). This is because smaller firms do not have transparent structure when providing information to banks. This fact makes them to face with more information opacity issues and to provide less information that is required by banks, comparing with larger enterprises (Wasiuzzaman, & Nurdin, 2019; McCarthy, Oliver, & Verreynne, 2017).

Moreover, most of smaller enterprises do not have audited financial statements, thus, they become less transparent from the perspective of financing institutions (Berger & Udell, 2002; Yildirim, Akci, & Eksi, 2013). On the other hand, smaller businesses have lower amount of tangible assets to collateralize (Yildirim, Akci, & Eksi, 2013; Rahman, Rahman, & Belas, 2017) and show lower turnover in their credit applications than larger SMEs (Yildirim, Akci, & Eksi, 2013). This is also another important indicator of their lower financial performance levels comparing to larger enterprises. Due to having more information opacity, lack of collateral (Yildirim, Akci, & Eksi, 2013) and bankruptcy (McCarthy, Oliver, & Verreynne, 2017; Wasiuzzaman, & Nurdin, 2019) problems, smaller firms are more likely to face with default risks in comparison with larger firms (Yang, Li, Kong, & Kong, 2020). Therefore, when smaller firms apply for bank credit, it is more likely that their credit application will be not accepted and they will face with more financial obstacles that are created by banks (Wasiuzzaman, & Nurdin, 2019; Rahman, Rahman, & Belas, 2017; El-Said, Al-Said, & Zaki, 2013; Wang, 2016). In this regard, many researchers confirm the positive association between firm size and

access to bank finance (Rahman, Rahman, & Belas, 2017; Okafor, Bhattacharya, & Apergis, 2020; Wasiuzzaman, & Nurdin, 2019). In parallel with above mentioned arguments, larger firms have higher revenues and incomes and show better financial performance and growth. Therefore, they are more likely to access to bank finance in comparison with their smaller businesses (Chandrayanti, Nidar, Mulyana, & Anwar, 2020; McCarthy, Oliver, & Verreynne, 2017). Above-mentioned empirical evidences make this chapter to set the following hypothesis:

H1: There is positive relationship between performance of larger SMEs and their bank credit access.

Similar with firm size, performance and access to finance, information asymmetry has also vital importance for credit access of SMEs depending on their age. Since older SMEs have been operating for long years, they have already become experienced in financing. They are also able to provide required information that banks ask for credit application (Withers, Drnevich, & Marino, 2011), and have long history in trade (Wasiuzzaman, & Nurdin, 2019).

Moreover, older SMEs are also more likely to have long term relationship with banks than younger SMEs (Comeig, Fernandaze-Blanco, & Ramirez, 2015; Cenni, Monferra, Salotti, Sangiorgi, & Torluccio, 2015; Withers, Drnevich, & Marino, 2011). Thus, older SMEs reduce information asymmetry more than younger SMEs because of lack of credit history of younger SMEs (Withers, Drnevich, & Marino, 2011; McCarthy, Oliver, & Verreynne, 2017). In this regard, younger SMEs face with more obstacles when applying bank credit (El-Said, Al-Said, & Zaki, 2013; Yang, Li, Kong, & Kong, 2020) such as credit rationing (McCarthy, Oliver, & Verreynne, 2017; Kirschemann, 2016) and higher costs of financing (Yildirim, Akci, & Eksi, 2013; El-Said, Al-Said, & Zaki, 2013).

On the other hand, since older SMEs perform their activities in longer term, they can have more sales, revenues and assets that increase their performances and also make them to have more tangible assets to collateralize for their credit applications. But considering to younger SMEs, they face with some issues such as liability of newness, lack of assets, higher probability of default and bankruptcy (Yildirim, Akci, & Eksi, 2013; McCarthy, Oliver, & Verreynne, 2017). For these reasons, older firms with strong performance and high growth are more likely to access to bank finance than their younger counterparts. (Comeig, Fernandaze-Blanco, & Ramirez, 2015; Cenni, Monferra,

Salotti, Sangiorgi, & Torluccio, 2015; Okafor, Bhattacharya, & Apergis, 2020; Wasiuzzaman, & Nurdin, 2019). In line with those above-mentioned arguments, the chapter sets another hypothesis as follows:

H2: There is a positive relationship between performance of older SMEs and their bank credit access.

Legal form of businesses might also affect their credit acceptance by banks (Wasiuzzaman, & Nurdin, 2019; Yildirim, Akci, & Eksi, 2013; El-Said, Al-Said, & Zaki, 2013). When SMEs are structured as sole proprietorships and partnerships, their liabilities are unlimited (Wasiuzzaman, & Nurdin, 2019). But concerning limited liability firms, its ownership structure includes legal and natural entities that have limited liabilities such as investing limited capital. For instance, the owner of a sole proprietorship is only one person who has control over whole business and is responsible for all operations including financing (Yildirim, Akci, & Eksi, 2013). Most of sole proprietorships are also established as family-owned firms and they have lower amount of capital comparing to other legal forms (Wasiuzzaman, & Nurdin, 2019). Thus, firms structured as sole proprietorship are perceived as risky by banks since they are more likely to go bankruptcy and default (Wasiuzzaman, & Nurdin, 2019; Huang, 2019).

Similar with sole proprietorship, other businesses that are structured as joint stock companies and unlimited companies have also lower probabilities of receiving bank credits (El-Said, Al-Said, & Zaki, 2013). But since limited liability firms have more shareholders that have invested higher amount of capitals, they might show better financial performances that signal their credibility and quality to banks when receiving credits (Yildirim, Akci, & Eksi, 2013). Therefore, limited liability firms that perform well are more likely to receive bank credits (Wasiuzzaman, & Nurdin, 2019; El-Said, Al-Said, & Zaki, 2013). In this regard, another research hypothesis might arise as follows:

H3: There is a positive relationship between performance of limited liabilities firms and their bank credit access.

6.3 Methodology

This research aims to investigate the impacts of firm performance on the bank credit access of SMEs with different size, age and legal structure. Considering the number of staff headcounts, SMEs are categorized as micro (0-9 workers), small (10-49 workers) and

medium-sized (50-249 workers) (European Commission, 2003). For analyse purposes, the researcher has classified the firm size into two categories as micro and small-medium size. Regarding firm age, it is the length of doing business for SMEs and the researcher has categorized the firm age by following the definition of Family Institute. According to this institute, firms are called as young in case of being operated for less than 10 years vice versa (Family Business Institute, 2019). When it comes to legal structure of SMEs, they are classified as sole proprietorship, partnership and private limited companies in parallel with the categorization of Economic Census 2011 (Wasiuzzaman, & Nurdin, 2019). But for analyse purposes, the researcher divides the legal structure of SMEs as limited liabilities and others that include sole, proprietorship, joint stock and unlimited companies.

The performance of SMEs is assessed by the following survey question: "Please evaluate the net profit of your business over the last 5 years?" The researcher scaled the responses as follows: 1-Declined significantly, 2-Declined somewhat, 3-Remained the same, 4-Improved somewhat, 5-Improved significantly. To evaluate access to finance, the researcher asked a dichotomous (yes, no) question to the respondents as follows: "Did your firm receive credit from the last bank credit application?" The firms that replied "yes" to this question, accessed to bank finance vice versa. Since the dependent variable of the research models is access to bank finance is binary, this chapter runs Binary Logistic Regression Test to examine the impacts of independent variables, company age, size, legal structure and performance on the dependent variable. Some other studies (Wasiuzzaman, & Nurdin, 2019; McCarthy, Oliver, & Verreynne, 2017) also employ logistic regression tests to analyse the impacts of age, size, legal structure on credit access and performance. By following those studies, this chapter also pays attention to Wald statistics to explore the significance of those independent variables. Moreover, age and size of SMES are categorical and ordered data. The researcher performed all the analyses via SPSS statistics.

The researcher considers 5% significance level for hypotheses testing. Thus, p values that are lower than 5% level of significance make the researcher to support alternative hypotheses that are presented Literature Review section. In case of having higher p values than this significance level, null hypotheses that suppose nonexistence of positive relationships between the independent variables and the

dependent variable will be supported. The research models are created by the researcher in line with the research hypotheses as follows:

1st Binary Logistic Regression model: $Y1 = (\beta 0 + \beta 1\ X1 + \beta 2\ X2)$
Y1,2: Dependent variable (access to finance)
X1: Independent variable (performance)
X2: Independent variable (firm size)
2nd Binary Logistic Regression Model: $Y1 = (\beta 0 + \beta 1\ X1 + \beta 2\ X2)$
Y1,2: Dependent variable (access to finance)
X1: Independent variable (performance)
X2: Independent variable (firm age)
3th Binary Logistic Regression Model: $Y1 = (\beta 0 + \beta 1\ X1 + \beta 2\ X2)$
Y1: Dependent variable (access to finance)
X1: Independent variable (performance)
X2: Independent variable (legal form)
B1,2: Regression coefficients for 1st, 2nd, 3th regression models
β0: Constant or intercept term for 1st, 2nd,3th regression models

To evaluate whether the created research models fit with the data or not and whether those models make effective predictions for the changes in access to finance or not, the researcher run -2 log likelihood statistics. Lower volumes of -2 L likelihood with predictors than the volumes of Base model's -2 LL statistics show better model fit. In this regard, as indicated in Table 1, adding size, age, legal form and performance as predictor(independent) variables in the research models have caused reductions in -2 log likelihood statistics (from 27.025 to 32.315, as they are presented in the column of Chi-square) and those reductions are significant at 5% level of significance (those volumes are indicated in the column of Sig.).

Table 6.1 Assessing Model Fit and Independence of Errors Assumption of Logistic Regression Models

Models	*Base model's -2LL statistics*	*-2L likelihood with predictors*	*Chi-Square*	*df*	*Sig*
Model 1	482.694	450.379	32.315	2	0.000
Model 2	482.694	454.969	27.725	2	0.000
Model 3	482.694	455.669	27.025	2	0.000

Source: Author's calculations

Hence, addition of those independent variables to the base model has made the research models to indicate more observations in the research data than the base model that only has a constant term. For these reasons, it can be expressed that adding independent variables into the created research models have generated better model fit and the created research models are better than the base model when predicting bank credit access of SMEs.

This chapter also includes the volumes of Cox-Snell R2 and Nagelkerke R2 to interpret the overall model fit. The volumes from those indicators explain the percentages of variability in dependent variable that independent variables cause. Thus, higher percentages from Cox-Snell R2 and Nagelkerke R2 are indicators of better model fit. For instance, two predictors in Model-1, performance and firm size explain 10.3% of variabilities in the dependent variable, as it is depicted in Table 1, under the column of Nagelkerke. Similarly, when performance, age and legal form of businesses have been added to Model-2 and Model-3, the ability of those Models to predict the variabilities in the credit access of SMEs have been increased and those predictors explain 8.9 and 8.6% of variabilities in the dependent variable, respectively.

Table 6.2 Linearity Assumption for the Logistic Regression Models

Variable	*B*	*S.E.*	*Wald*	*df*	*Sig.*	*Exp(B)*
LOGISTIC REGRESSION MODEL-1						
Performance	-0,052	0,256	0,035	1	0,851	0,949
Size	-0,376	0,632	0,353	1	0,553	0,687
LOGISTIC REGRESSION MODEL-2						
Performance	-0,052	0,323	0,026	1	0,872	0,949
Age	-0,796	0,703	1,282	1	0,258	0,451
LOGISTIC REGRESSION MODEL-3						
Performance	0,086	0,260	0,110	1	0,740	1,090
Legal form	-0,901	0,636	2,012	1	0,156	0,406

Source: Author's calculations

To examine Independence of Errors assumption of the logistic regression models, the researcher includes Durbin Watson statistics into the analyses. This statistic investigates whether there is a relationship between the data and the cases. Thus, the residual terms need to be independent and non-autocorrelated (Field, 2009, p. 220). The volumes that are around or close to 2 are indicators of non-autocorrelated residual terms. As illustrated in Table 1, the volumes

from Durbin-Watson Test statistics differ between 1,992 to 2,037, therefore, it can be elucidated that this chapter fulfils the Independence of Errors assumption.

This chapter also pays regard to interaction term to evaluate whether linearity assumption of logistic regression test is fulfilled or not. In this regard, the researcher run some analyses to find " The interaction term between the predictor and its log transformation" (Field, 2009, p.273). Interactions terms are presented in Table 2, under the column of "Sig.". In case of having p values (Sig.) that are lower than 5% level of significance, linearity assumption becomes violated. But since all volumes are higher than this selected level of significance (they differ between 0,156 to 0,872), this chapter also fulfils linearity assumption.

Moreover, this research reckons among the scores of Variance Inflation Factors (VIF) and tolerance to examine multicollinearities between independent variables of the logistic regression models. For instance, higher volumes from VIF are indicator of high correlations between predictors. In this regard, VIF values that are higher than 10 and tolerance volumes that are lower than 0.10 substantiate the fact that multicollinearity assumption is violated Field (2009. But the tolerance volumes are higher than 0.10 (differ between 0.927 to 0.994) and VIF scores are lower than 10 (vary between 1,006 to 1,079) for the independent variables of this research. Therefore, this chapter does not violate multicollinearity assumption since there are not multicollinearities between independent variables.

Furthermore, this chapter uses Cochran's formula (1963) to measure if the sample size is enough to run logistic regression tests. The formula is as follows:

$$n_0 = \frac{Z^2\, pq}{e^2}$$

n = sample size

Z= confidence level at 95% (is 1.96 in statistical tables that include field below the normal curve)

e= Sampling error (e= 0.05)

p= maximum variability (p=0.5)

q = 1-p

$$n_0 = \frac{1.96\ (0.5)(0.5)}{(0.05)^2} = 384$$

As it is confirmed by the formula, the required sample size to apply logistic regression analyses is 384. The research sample consists of 479 SMEs. Thus, the sample size that this chapter has is more than the required size and it is a strong argument to apply logistic regression tests.

Corresponding to data collection, the researcher has created an online internet mediated questionnaire. Firstly, the researcher has gained the email lists of SMEs from several chambers of commerce in various regions of Turkey. Based on those lists, the researcher has performed stratified random sampling method (strata are 7 geographical regions of Turkey). Then, the link of online questionnaire was sent to the randomly selected respondents by e-mails. At this stage, the researcher also employed purposive sampling to characterize the prospective respondents who would be owners, or executives of SMEs in Turkey. Then, 479 respondents who own or work for SMEs in Turkey, fulfilled the questionnaire. The questionnaires that include missing values and responses were not included into the analyses.

Concerning the details about the sample, it includes SMEs from the 7 regions of Turkey. While 38.7% of SMEs in the sample is located in Marmara region, 16.9% in Aegean, 10.6% in Mediterranean, 9.8% in Central Anatolia, 8.6% in Black Sea, 7.3% Eastern Anatolia and 8.1% in South Eastern Anatolia. Those SMEs also operate in various sectors, while the majority of them work in manufacturing industry (246 SMEs). Mining, trade, services, construction, and agriculture are other industries that the remaining SMEs work for. Regarding firm size, 143 SMEs (29.85%) are microenterprises, while the others (70.15) are categorized under small-medium sized segment in parallel with the definition of European commission (2003). The length of doing (age) business is up to 10 years for 142 SMEs, while 70.35% of SMEs in the sample have been operating for more than 10 years. When it comes to legal form, 312 SMEs work as limited liability companies, while other 167 SMEs have various legal structures such as sole proprietorship, joint stock and unlimited companies.

6.4 Results

The results of logistic regression analyses for Model 1 are illustrated below in the Table. As explained in Methodology section, Model 1 includes two predictor (independent) variables, performance and firm size, while the dependent variable is access to finance. According to

table, p values for both predictors are significant at 5% significance level (performance: β= 0.382, Wald χ^2 = 19.149, p= 0.000 < 0.05, firm size: β = -0.584, Wald χ^2 = 5.502, p= 0.019 < 0.05). Thus, performance of SMEs and their size have significant impacts on access to finance. Concerning to coefficients of the independent variables, they also significantly differ from 0 (performance: β= 0.382, firm size: β = -0.584). While firm size becomes smaller and their performance increases, SMEs becomes more likely to access to finance. This is because coefficients for firm size is negative, while the coefficients for performance is positive. Thus, higher values in performance and lower values in firm size are associated with higher possibilities to access to bank finance. In detail, when firm size increases by one unit, odds of occurrence for access to finance decreases by 0.584. Regarding performance, when performance of firms increases by one unit, odds of occurrence for access to finance increases by 0.382.

Table 6.3 The Results of Binary Logistic Regression for Model-1

Variable	*β*	*SE*	*OR*	*Wald statistic*	*p*
Perform.	0.382	0.087	1.465	19.149	0.000
Firm size	-0.584	0.249	0.558	5.502	0.019
Constant	0.181	0.361	1.199	5.283	0.616
ATF = 0.181 + 0.382*Performance -0.584*Firm size					

Source: Author's calculations

Table 6.4 The Results of Binary Logistic Regression for Model-2

Variable	*β*	*SE*	*OR*	*Wald statistic*	*p*
Perform.	0.438	0.084	1.550	27.085	0.000
Firm age	-0.225	0.252	0.798	0.801	0.371
Constant	-0.158	0.321	0.854	0.242	0.623
ATF = -0.158 + 0.438*Performance -0.225*Firm age					

Source: Author's calculations

When it comes to odds ratio (OR), odds ratios for performance and firm size are 1.465 and 0.558, respectively. Since odds ratio for firm size is lower than 1, it can be stated that as values for firm size increases,

the odds of access to finance becomes less likely to occur. One-unit decrease in firm size, 0.558 times higher the odds of occurrence for access to finance. On the other hand, since odds ratio for firm performance is higher than 1, it can be posited that as values for performance increases, the odds of access to finance becomes more likely to occur. One-unit increase in firm size, 1.465 times higher the odds of occurrence for access to finance. For these reasons, smaller SMEs that show higher performances are more likely to access to finance comparing with their larger counterparts that have adequate performance levels. In this regard, this chapter fails to support H1 hypothesis.

Table 6.4 is presented above to illustrate the results of Logistic Regression Analyses for Model-2. While firm age and performance are independent variables in the regression model, access to finance is the dependent variable. According to table, p value for firm age is higher than 5% level of significance (p= 0.371> 0.05). Therefore, firm age is not a significant predictor in this model and there is not any significant relationship between firm age and access to finance. Although performance is a significant predictor (p=0.000<0.05), since age does not make positive contribution to explain variations in access to finance, this chapter fails to support H2 hypothesis.

Table 6.5 The Results of Binary Logistic Regression for Model-3

Variable	*β*	*SE*	*OR*	*Wald statistic*	*p*
Perform.	0.434	0.084	1.543	26.428	0.000
Legal St.	0.074	0.245	1.077	0.091	0.763
Constant	-0.259	0.338	0.772	0.586	0.444
ATF = -0.259 + 0.434*Performance +0.074*Legal form					

Source: Author's calculations

The researcher has also run logistic regression for Model-3 that includes performance and legal form of businesses as the independent variables and access to finance as the dependent variable. Table 6.5 depicts the results of those analyses. As illustrated in Table 6.5, p value for legal form is not significant at 5% level of significance (p= 0.763> 0.05). Therefore, legal form of businesses does not determine credit

access of SMEs and a significant association is not in existence between these variables.

Similar with Model 1 and Model 2, performance is also a significant predictor in Model-3 too and positively related with access to finance since the coefficient is positive (β= 0.434). However, having a non-significant predictor in this model, namely, legal form of businesses makes this chapter to fail to support H3 hypothesis. These results prove the fact that firm size is the only firm characteristics that determines the access to finance in this research and together with firm performance, they make positive contributions on access to bank finance.

6.5 Discussion

As mentioned in the Results section, one of the results of this research confirms that smaller firms that perform well, gain credit access more than their older counterparts. Hence, this result makes this chapter to oppose to the findings of Rahman, Rahman, and Belas (2017), Okafor, Bhattacharya and Apergis (2020), Wasiuzzaman and Nurdin (2019), Chandrayanti, Nidar, Mulyana, and Anwar (2020), McCarthy, Oliver and Verreynne (2017), since those studies confirm the positive relationship between performance of larger SMEs and their credit access. The reason why smaller firms perform well have accessed to bank finance more than their larger counterparts might stem from the working experience of top managers. This is because top managers' experience increases probability of SMEs to access to finance (Wang, 2016). According to research data, around 72% of executives in microenterprises have minimum 10 years' sector experience. Those executives might have already created their networks and have already known processes of bank financing. Having such executives in their businesses might have made those smaller SMEs to gain more credit access comparing with their larger-sized counterparts.

On the other hand, this chapter also substantiates the positive contribution of firm performance on bank credit access of SMEs. For this reason, this result is compatible with the findings of Yang, Li, Kong and Kong (2020), Chandrayanti, Nidar, Mulyana, and Anwar (2020), El-Said, Al-Said, and Zaki (2013), Yildirim, Akci, and Eksi (2013), since those researchers also prove the positive associations between firm performance and credit access.

Regarding performance of older SMEs and their credit access, age of firm is not a significant factor that affects this relationship. Thus, the result of this research is not consistent with the results of Comeig, Fernandaze-Blanco and Ramirez (2015), Cenni, Monferra, Salotti, Sangiorgi and Torluccio (2015), Rahman, Rahman, and Belas (2017), Okafor, Bhattacharya and Apergis, (2020), Shaista Wasiuzzaman and Nurdin (2019), since these researchers affirm the positive association between performance of older SMEs and their access to bank finance. On the other, the result of this chapter regarding firm age is compatible with the results of Yildirim, Akci, and Eksi (2013), Okafor, Bhattacharya and Apergis, (2020), since those researchers also does not find any significant relationship between age of SMEs and their bank credit access. The reason why this chapter does not find significant differences between older and younger SMEs that perform well and receive bank finance might be related with the rigid structure (Withers, Drnevich, & Marino, 2011) and inertia of SMEs (Cucculelli, 2013). Since older firms do not have flexible structure that makes them to be easily adapted to changes, and be open to new opportunities, younger SMEs in this research data might have been disposed to find more financing options from various banks. This behavior of younger SMEs might have made younger SMEs to perform similar with their older counterparts.

Corresponding to legal form, performance and credit access, nonexistence of significant relationship between performance of limited liability firms and getting bank loans have been corroborated. In this regard, this chapter differs from the studies of Wasiuzzaman and Nurdin, (2019) Okafor, Bhattacharya and Apergis, (2020), El-Said, Al-Said, and Zaki (2013), Yildirim, Akci, and Eksi (2013), Huang (2019), because those studies bear out the differences between credit access of well performed firms depending on their legal forms.

The reason why this chapter finds no significant differences between legal forms of better performed SMEs might be related with their length of relationship with banks. This is because relationship lending makes SMEs to face with reduced obstacles to gain bank finance (McCarthy, Oliver, & Verreynne, 2017). Even SMEs can be set as sole proprietorships; they can have lending relationships with banks for a long time. Having long year contacts with banks might have made SMEs in this research to minimize information asymmetry between them and banks, thus, no matter how their legal form is, they might have received bank credit.

As bank credit access has vital importance for internationalization processes of SMEs, the solutions to overcome this obstacle is also highly valued. Therefore, policy makers' incentives or financial supports including export credits are always welcomed by SMEs. But except those supports, policy makers need to minimize uncertainties in the markets by employing some regulations that increase transparency of SMEs from the perspective of financial institutions. Since information asymmetry is one of the main reasons of credit obstacles, reducing opacity of SMEs might increase their probability of receiving bank loans. The information asymmetry between banks and SMEs is not only related with opacity of SMEs, but also related with their awareness and financial literacy. When SMEs have financial literacy, they can also reduce information asymmetry. This is because when banks require something from them in credit application process, SMEs might provide required information that makes banks to effectively evaluate SMEs' application. To increase awareness of SMEs regarding banks' credit options and financial literacy of SMEs, banks and universities might provide some courses or panels to inform firm executives. By doing so credit access of SMEs might become easier and SMEs can expand their operations by entering different markets and this fact also increases tax revenues of governments, reduce unemployment rates and increases productivity of SMEs.

6.6 Conclusion:

Internationalization enables SMEs to fulfil the needs and demands of their foreign costumers, thus, SMEs differentiate their products and their productivity increases. When widening their product range and satisfying consumers' and governments' requests, SMEs need bank credit that is the first choice of many company executives. However, receiving bank loans is very complicated for SMEs due to having higher default risks and opacity problems comparing with larger businesses. To overcome those impediments, their financial performance might signal their credibility to lenders and might decrease information asymmetry that is one of the major reasons of the barriers that banks create for them. In this regard, this chapter aims to explore whether performance of SMEs with different size, age and legal form enables them to access to bank finance or not.

In parallel with this aim, the researcher has directed an online questionnaire to the randomly selected 479 respondents who are

executives of 479 SMEs in Turkey. Those SMEs have been operating in various geographical regions of Turkey. To analyse the impacts of performance, size, age and legal form of SMEs on access to bank finance, the researcher employs Binary Logistic Regression Tests. The assumptions of this test have been also fulfilled and confirmed by the analyses. The researcher has run all of the research analyses via SPSS statistics.

According to the statistical results, firm size and performance are significant predictors for credit access of SMEs and smaller sized SMEs with better financial performance are more likely to access to bank credit than their larger-sized counterparts. On the other hand, credit access of SMEs does not differ between well performed SMEs depending on their size and legal forms. Sectoral experience of firm executives, structure of SMEs and lending relationship might be reason to explain the results of this chapter. Those findings make this chapter to create value addition to the entrepreneurship literature. Therefore, this chapter fulfils the research gap in this specific topic.

On the other hand, this chapter has some limitations. One of the limitations is that this research only focuses on bank financing and the impacts of firm characteristics in credit access. Another limitation is that the research data only includes Turkish SMEs. To overcome those limitations, and have a more comprehensive study, researchers can also consider other financing options and analyse SMEs from different countries. Moreover, further studies can also collect data from larger businesses to find differences between performance and credit access of SMEs and larger-sized firms with various firm-specific characteristics. Furthermore, researchers might also pay attention to the characteristics of company executives when analysing the performance and bank credit access of SMEs and larger-sized enterprises.

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References

Arndt, C., Buch, C. M., & Mattes, A. (2012). Disentangling barriers to internationalization. Canadian Journal of Economics, 45(1), 41–63.

Berger, A.N., & Udell, G.F. (2002). Small business credit availability and relationship lending: the importance of bank organisational structure. The Economic Journal, 112(477), 32-53.

Rahman, A., Rahman, M. T., & Belas, J. (2017). Determinants of SME finance: evidence from three central European countries. Review of economic perspectives, 17(3), 263–285.

Cenni, S., Monferra, S., Salotti, V., Sangiorgi, M., & Torluccio, G. (2015). Credit rationing and relationship lending. Does firm size matter. Journal of Banking and Finance, 53, 249-265.

Chandrayanti, T., Nidar, S. R., Mulyana, A., & Anwar, M. (2020). Impact of entrepreneurial characteristics on credit accessibility: case study of small businesses in West Sumatera–Indonesia. Entrepreneurship and Sustainability Issues, 7(3), 1760.

Cochran, W. G. (1963). Sampling Techniques, 2nd Ed., New York, John Wiley and Sons, Inc.

Comeig, I., Fernandaze-Blanco, M.O., & Ramirez, F. (2015). Information acquisition in SME's relationship lending and cost of loans. Journal of Business Research, 68, 1650-1652.

Cucculelli, M. (2013). Product innovation and firm's growth in family firms: a quantile regression approach. International Journal of Entrepreneurship and Innovation Management, 17(1-3), 124-141.

El-Said, H., Al-Said, M., & Zaki, C. (2013). Access to finance and financial problems of SMEs: evidence from Egypt. International Journal of Entrepreneurship and Small Business, 20(3), 286-309.

European Commission (2003). Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (Text with EEA relevance) (notified under document number C (2003 - 1422). Retrieved April, 3, 2021 from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361.

Family Business Institute (2019). Definition of Young Firm. Retrieved March, 18, 2021, from: https://www.familybusinessinstitute.com/.

Field, A. (2009). Discovering statistics using IBM SPSS statistics. sage.

Hadryś-Nowak, A. (2018). Family entrepreneurship orientation in family owned SMEs: a key resource for internationalization? Entrepreneurial Business and Economics Review, 6(2), 153-169.

Huang, J. (2019). Bond finance, bank finance, and bank regulation. Bank Finance, and Bank Regulation. Retrieved April, 28, 2021 from: http://dx.doi.org/10.2139/ssrn.3312369

Kirschemann, L. (2016). Credit rationing in small firm bank relationships. Journal of financial Intermediation, 26, 68-99.

McCarthy, S., Oliver, B., & Verreynne, M. L. (2017). Bank financing and credit rationing of Australian SMEs. Australian Journal of Management, 42(1), 58-85.

Okafor, L. E., Bhattacharya, M., & Apergis, N. (2020). Bank credit, public financial incentives, tax financial incentives and export performance during the global financial crisis. The World Economy, 43(1), 114-145.

TUIK (2019). Retrieved April, 2, 2021. Turkish Statistical Institute. Retrieved from: https://tuikweb.tuik.gov.tr/PreHaberBultenleri.do?id=37548

Yang, W., Li, H., Kong, G., & Kong, D. (2020). Access to finance and SMEs' trade credit: evidence from a regression discontinuity design. Accounting & Finance, 1-33.

Yildirim, H. S., Akci, Y., & Eksi, I. H. (2013). The effect of firm characteristics in accessing credit for SMEs. Journal of Financial Services Marketing, 18(1), 40-52.

Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? –An empirical evidence from an enterprise survey. Borsa Istanbul Review, 16(3), 167-176.

Wasiuzzaman, S., & Nurdin, N. (2019). Debt financing decisions of SMEs in emerging markets: empirical evidence from Malaysia. International Journal of Bank Marketing, 37(1), 258-277.

Withers, M. C., Drnevich, P. L., & Marino, L. (2011). Doing more with less: the disordinal implications of firm age for leveraging capabilities for innovation activity. Journal of Small Business Management, 49(4), 515-536.

7

Access to Finance of MSMEs in Turkey

Halit Targan Ünal and Neslihan Özdemir

7.1 Introduction

Micro, small and medium size enterprises (MSMEs or just SMEs) form an important segment of the economy. SMEs are usually accepted as the backbone of any economy since they deliver the major contribution to gross domestic product and offer employment to a very large portion of the population in many countries.

Availability of finance continues to be a challenge for SMEs. In that frame work, most SMEs continue to be underserved or unserved in terms of availability of funds or credit. Access to finance is consistently cited as one of the obstacles to unlocking the growth of this segment (OECD, 2015). Lack of appropriate financing products and services, weak delivery channels and inherent risks associated with SMEs lessen opportunities for access to finance. The challenges for SMEs to raise debt funds are mainly on account of size, the risk perception, availability of information and the availability of bankable collaterals are among the main problem areas.

In order to promote sustainable growth in the medium to long term, customized financial services and products become the key along with a cost-effective delivery channel which can realize the potential that is presented by this segment. Empirical evidence suggests that growth fuelled by a customized financing approach makes SMEs and their performance sustainable.

The main purpose of this study is to analyse the main determinants of SME lending by using regression analysis of a number of independent variables. Features and activities of SMEs in Turkey

which affect the access to finance will also be reviewed. In this study, the financial statements such as balance sheets and income statement of sampled firms are used for to get the pattern for the composition of assets and liabilities, liquidity, financing choice, equity level which provide signals of current and future financial health. SMEs with strong financials and good risk management practices are expected to have access to funds more and at better rates due to their lower risk. Moreover, for extending the analysis of performance of a large sample of small and larger firms in non-financial industries in the Turkish economy, these companies' financial structure are also compared.

7.2 Brief Literature

There are numerous research studies on financing issues regarding SMEs. Capital structure, access to finance, obstacles to financing with regard to large or small companies are the major discussion topics in terms of different country contexts. In this respect, for instance, Beck et al. (2006) worked on financing obstacles of firms and found that older, larger, and foreign-owned firms report less financing obstacles. Banerjee (2014) found a relationship between start-ups (firms aged less than 2 years old) reporting access to finance difficulties and the amount of credit they receive. Calabrese et al. (2020) investigated the impact of financial fragmentation as measured by the dispersion in interest rates across EU countries on SMEs' access to finance and found that an increase in financial fragmentation not only raises the probability of all firms to be rationed but also to be charged higher loan rates. Nyikos et al (2020) searched improvement of access to finance for SMEs and found that the use of subsidies has a positive impact on employment, sales and in certain settings on productivity. Moreiraa (2016) explored SMEs access to finance and found that solvency and liquidity variables which were considered as binding inputs by underwriters to allow SMEs accessing credit were not statistical significant in their model. Distinguin et al (2016) searched whether competitors from the informal sector affect the credit constraints of registered SMEs, and their study indicated that registered SMEs facing competition from informal firms are more likely to be credit-constrained. Chit (2019) investigated the role of credible financial information and a country's legal and regulatory environment on the access to finance in developing countries and found positive impacts. Bongini et al. (2021) explored SME access to capital markets and found that GDP growth, developed financial markets and the quality of the

legal system influence market suitability considerably. Kolaković et al. (2019) studied the experiences of SMEs in Croatia and found that access to finance for small and medium enterprises still represents one of the biggest problems that entrepreneurs face. Ademosu and Morakinyo (2021) worked on the Nigerian data and found significant influence of inflation rate, exchange rate and interest rate on access to finance for SMEs. Seo (2013) also investigated the financing of SMEs by banks and found that GDP movements play a pivotal role in determining lending behavior to SMEs, and motivation of banks for making a profit during recession increases bank loans to SMEs.

On the basis of such earlier studies, the Turkish micro, small and medium enterprises" case is investigated as explained in the following sections of this chapter.

7.3 Financial Characteristics of Companies

Similar to their counterparts in many countries, real sector companies (companies operating in the industries except the financial industry) in the Turkish economy generate employment, produce goods and services and make investments in their respective value chains.

In Turkey, wholesale and retail trade sector of the real economy have the biggest share (31%) in terms of the number of companies involved; and it has even higher share (42%) in net sales. In addition, the manufacturing sector is the leading sector in employment with a share of 31%; and it has the highest assets size and strong equity level as of the end-2019. These figures indicate that almost half of the employment and 70% of net sales are generated by the trade and manufacturing sector in Turkey. As of December 31 2019, the current assets of the real sector companies form 58 % of the total company assets of which 9,6 % is liquid assets. The liquid assets are mainly cash and due from banks. Their main fixed assets are tangibles as machinery, plant and equipment, buildings and land. Their financial fixed assets are subsidiaries and affiliates, and also intangibles such as know-how, goodwill and R&D. On the liability side their balance sheets, the short term liabilities constitute 45.7% of which 20.3 % is bank loans, 39.1 % is trade debt. Shareholders equity has 28.8 % share in total funding of all sampled firms. In order to finance assets and make investments, firms need to make strategic planning about their funding structure.

In that framework, funding structure of firms constitutes external borrowings and firms own equity mainly paid by the holders of the companies (Myers, 2003). External funds can be raised in the form of debt and/or equity in financial markets. Short or long term bank loans, and trade payables to other firms form the debt part. Along with that, firms' equity mainly constitutes the paid-up capital, reserves and retained earnings of firms. As of December 31, 2019, composition of equity of total sampled firms in Turkey displays 66.6% of paid-up capital; 29% of reserves and 4.4 % of retained earnings. Funding structure of all firms in the sample displays an upward trend especially for long term borrowings. In other words, the share of shareholders' equity goes downward accordingly over December 2009-December 2019 period for the Turkish firms in the sample examined (TCMB, 2021).

Selected Figures from Financial Statements of SMEs in Trade and Manufacturing

Financing expense is one of the major factor affecting the financial health of companies. In this context, the behavior of the financial expense ratio (measured by the short term and long term financing payments as a percentage of operational profits) displays a stable pattern during the 2009-2019 period for the SMEs in the Turkish trade and manufacturing industries. Besides, financing expense to net sales ratio is lower for these SMEs.

With regard to the development of capacity of payment of short term financial liabilities with the liquid assets the following points should be mentioned: For the sampled companies in all sizes, the level of payment capacity was getting better starting from the year 2015; it had even reached positive levels for the SMEs. Net working capital (NWC), which corresponds to the difference between current assets and short term liabilities, had started increasing especially after 2015. Increasing return on equity (RoE) and return on assets (RoA) indicates that the sampled companies were able to generate internal financial resources (TCMB, 2021).

SMEs in the Turkish Foreign Trade

SMEs and larger firms have different features regarding their share in the total number of firms involved in foreign trade, and also export and

import volumes. For the export figures, micro SMEs constitute 60.8% of the total firms with export value share of 19.2%; while large firms constitute 2.7% of total firms with export value share of 43.7%. For the import figures, micro SMEs constitute 57.1% of total firms with export value share of 10.2% while large firms constitute 4% of total firms with export value share of 62.3%. Therefore, on consolidated basis SMEs are net exporters; while larger firms are net importers in Turkey at the year end of 2019 (TurkStat, 2021).

Financing of SMEs by the Turkish Banking Sector

Analysis of sampled data shows that use of bank loans is main funding source of companies in Turkey. As an indicator of credit quality, share of bad debts increased from 2.5% to 3.8% between 2009-2019. SME loans of the Turkish banking sector amounted to 104.3 billion US Dollar (equivalent to 886 billion TL) in Turkey as of May 31, 2021. In the banks' SME loan portfolio, share of micro loans was 31%, small loans were 32% and medium loans was 37%. Currency denomination of total loans to SMEs in the Turkish banking sector reveals that 84% of total loans were extended in TL while 16% were extended in foreign currencies (FX) as of May 2021 (BDDK, 2021).

7.4 Data and Methodology

Data Evaluation

For this study, the data on SMEs with loan contracts were categorized in accordance with the SME definition by the Ministry of Science, Industry (Ministry of Science and Industry, 2018). Accordingly, SMEs are grouped on the basis of the number of employees, the size of their balance sheets (up to TL 125 million) and of their turnover (TL 125 million) as of 12 July 2021. (The exchanges rates then were €/$:1.1858; $/TL:8.6319). The data sources are the databases of the Central Bank of Republic of Turkey (CBRT), the Banking Regulation and Supervision Agency of Turkey (BRSA), Borsa İstanbul (BIST), and also the Turkish Statistical Institute (TurkStat). CBRT database covers the annual balance sheets and income statements of the private firms for the period of December 1990 – December 2019. In addition, financing profiles and figures by the banking sector were mainly gathered from

the BRSA database; market and other related data were gathered mainly gathered from the BIST and TurkStat databases.

Model

The relationship of SME and large scale firm financing by the banking sector and macroeconomic, market and banking sector variables in Turkey have been examined by employing the regression analysis. Dependent variable is defined as growth rate of loans extended to SMEs and large scale firms. Explanatory variables are identified as GDP growth rate, unemployment rate reflecting overall economic condition, loan to asset size ratio, loan to deposit ratio, asset size to equity ratio for the banking sector and interest rate on reference bond issued by the Turkish Treasury and US Dollar/TL exchange rate as floating market variables.

Model i

Loans Extended to $Firm_i = \beta_o + \beta i\ GDP + \beta i\ UR + \beta i\ INT + \beta i\ EXC + \beta i\ LtD + \beta i\ LEV + \beta i\ LtA + \varepsilon$

i: micro, small, medium, large scale firm

β_o = constant term, βi = coefficient of explanatory variable

GDP = Growth Rate, UR = Unemployment Rate, INT = Interest Rate on Reference Bond, EXC = US Dollar/TL Exchange Rate, LtD = Loan/Deposit, LEV = Asset Size/Equity, LtA = Loan/Asset

Table 7.1 Summary Results for the Regression

Model	*R^2*	*Corrected R^2*	*Coefficient of INT*
Micro	0.1553	0.0903	-0.5138
Small	0.1840	0.1212	-0.6978
Medium	0.2714	0.2153	-0.4537
Large	0.2707	0.2146	-0.2388

The results from the regression analysis suggest that the market interest rate is statistically significant in extending loans to SMEs and large scale firms. Besides, loans to large firms are least sensitive to the market interest rates and statistically significant at α=0.10 significance

level. The market interest rate variable is significant for micro, small and medium size SMEs and its magnitude differs among SMEs according to these regression models. For loans to large firms, the exchange rate of US Dollar/TL, and the leverage ratio of banking sector variables are also statistically significant.

7.5 Conclusion

This research investigated the SME financing and its determinants by the Turkish banking sector. Regression analysis on determinants of loans extended to firms in Turkey suggest that the market interest rate variable is significant for micro, small and medium size SMEs and its magnitude differs among SMEs according to identified regression models. Besides, fitted regression model for the large scale firms suggest that large firms are least sensitive to market interest rates. For loans to the large firms, the variables exchange rate of US Dollar/TL and leverage ratio of banking sector are also found to be statistically significant implying these variables were being considered while extending loans to large scale firms. As for the main features of SMEs operating in Turkey, analysis of selected variables and ratios regarding financial position of sampled firms' financing expenses, working capital and liquidity, profit and loss performance out of positions etc. revealed that there are operational differences among SME scale and large scale firms. It has also been traced from the data that raising funds for financing the operations, activities and investments by the firms using equity market instruments is very limited. This can be considered as the most challenging weakness of Turkish firms' for accessing the longer term and relatively cheaper funds available in the financial markets.

References

Ademosu, A. and Morakinyo, A. (2021). Financial System and SMEs Access to Finance: A Market-Oriented Approach, Studia Universitatis Economics Series, Volume 31, Number 3.

Ayyagari, M., Demirguc-Kunt, A. and Maksimovic, V. (1999). Financing of firms in developing countries lessons from research. Policy Research Working Paper 13, 379 – 408.

Banerjee, R. (2014). SMEs Financial Constraints and Growth, BIS Working Papers No 475.

BDDK (2021). Aylık Bülten [Monthly Bulletin] (bddk.org.tr) 26.06.2021

Beck, T., Demirguc-Kunt, A. and Maksimovic, V., (2005). Financial and Legal Constraints to Growth: Does Firm Size Matter?" Journal of Finance, Volume 60, Number 1, 137–177.

Beck, T., Demirguc-Kunt, A., Laeven, L and Maksimovic, V (2006). The Determinants of Financing Obstacles, Journal of International Money and Finance, Volume 25, 932–952.

BIST (2021). (Borsa Istanbul) [Istanbul Stock Exchange] Borsa İstanbul A.Ş., borsaistanbul.com

Bongini P., Ferrando A., Rossi E. and Rossolini M. (2021). SME Access to Market-Based Finance Across Eurozone Countries, Small Bus Econ (2021) Volume 56, pp.1667–1697.

Calabrese, R., Girardone, C., and Sclip A. (2020). Financial Fragmentation and SMEs' Access to Finance, Small Business Economics.

Chit M. M. (2019). Financial Information, Credibility, Legal Environment, and SMEs' Access to Finance International Journal of the Economics of Business, Volume 26, Number 3, pp. 329–354.

Distinguin I., Rugemintwari C. and Tacneng (2016). Can Informal Firms Hurt Registered SMEs' Access to Credit?, Elsevier World Development Volume 84, pp. 18–40.

Gujarati D.N. (2004) Basic Econometrics.

Hull J.C. (2012). Risk Management and Financial Institutions, Third Edition, Wiley Finance.

Jorion, P. (2014). Value at Risk, The New Benchmark for Managing Financial Risk, Third Edition, McGraw Hill.

KAP (2021). Kamuyu Aydınlatma Platformu [Public Disclosure Platform], 24.08.2021.

Kolaković M., Turuk M. and Turčić I. (2019). Access to Finance – Experiences of SMEs in Croatia, Zagreb International Review of Economics & Business, Vol. 22, Special Conference Issue, pp. 1-14.

Luengnaruemitchai, P. (2004). The Asian Crises and the Mystery of the Missing Balance Sheet Effect, Berkeley, United States: University of California, Department of Economics.

Loureiro, M.G. and Castelo, J.P. (2012). A Model for Assessing the Contribution of Innovative SMEs to Economic Growth: The Intangible Approach, Elsevier Economics Letters, 116, pp. 312-315.

Ministry of Science and Industry (2018). Küçük ve Orta Büyüklükteki İşletmelerin Tanımı, Nitelikleri ve Sınıflandırılması Hakkında Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik, [Regulation Amending the Regulation on Definition, Qualifications and Classification of Small and Medium-Sized Enterprises], Resmi Gazete [Official Gazette], 24.06.2018 ve sayı: 30458. Project8_Layout 1 (resmigazete.gov.tr) (access date: 15.05.2021).

Modigliani, F. and M. Miller (1958). The Cost of Capital, Corporation Finance, and the Theory of Investment, American Economic Review, 48, 261-297.

Moreiraa, D.F. (2016). The Microeconomic Impact on Growth of SMEs When the Access to Finance Widens: Evidence from Internet & High-Tech Industry, Procedia - Social and Behavioral Sciences, 220, pp. 278 – 287

Myers S.C., (2003). Financing of Corporations, Handbook of Economics of Finance.

Nyikos, G. et al (2020). Do Financial Instruments or Grants have a Bigger Effect on SMEs' Access to Finance? Evidence from Hungary, Journal of Entrepreneurship in Emerging Economies, Volume 12, Number 5, pp. 667-685.

Obstfeld, M. (2004). Globalization, Macroeconomic Performance, and the Exchange Rates of Emerging Economies, Bank of Japan Monetary and Economic Studies, 22(S-1), 29–55.

Pratap, S., Lobato, I. and A. Somuano (2003). Debt Composition and Balance Sheet Effects of Exchange Rate Volatility in Mexico: A Firm Level Analysis, Emerging Markets Review, 4(4), 450-471.

Schneider, M. and A. Tornell (2004). Balance Sheet Effects, Bailout Guarantees, and Financial Crises, Review of Economic Studies, 71, 883-913.

Seo J.Y. (2013). Are Bank Loans to SMEs Procyclical? Evidence from an Analysis of the Lending Behavior of Korean Banks, South African Journal of Business Management, 44(2).

Song H., Yu K. and Lu Q. (2018). Financial Service Providers and Banks' Role in Helping SMEs to Access Finance, International Journal of Physical Distribution & Logistics Management Volume 48, Number 1, pp. 69-92.

TCMB [Central Bank of Turkey] (2021). Company Accounts Statistics, 15.05.2021.

TurkStat (Turkish Statistical Institute) (2021). tuik.gov.tr, 12.03.2021.

8

Export Credit Agencies and Small Firm Internationalization

Emin Akçaoğlu and Rainer Wehner

8.1 Introduction

With the spread of the financial crisis that started in 2007 in the United States of America, and also in the economies of the major industrialized countries, the world economy has faced an unprecedented economic crisis in the aftermath of World War II. The global crisis has led to significant decreases in the gross national products of both developed and developing countries. Accordingly, the international trade volume fell below the level of the oil crisis in the 1970s (Baldwin, 2009). A similar experience was also in the agenda of the World just after the start of the Covid pandemic.

The most important reason for the contraction in international trade volume was the contraction in global demand. At this point, the purchasing power for the demand and the financing of the trade have come to the agenda. The crisis had also caused loss of trust. This was obviously overlapping the period when the bankruptcy of banks and other financial institutions were ongoing. In a such a financial crisis, clearly there were only very limited resources to be used in international trade finance.

A research conducted by the World Bank among banks and firms in various countries indicates that there were significant problems in terms of financing of working capital and pre-shipment export finance, compared to the pre-crisis period. The challenges faced by small and medium-sized enterprises (SMEs) were particularly serious (Chauffour and Farole, 2009). The same is also evident in the evaluations made by the World Trade Organization (WTO, 2008).

In other words, in times of financial crisis, international trade financing becomes difficult. The most important reason for this is that the crisis strengthens the perception of the increase in credit risk and makes it difficult to establish or maintain the trust relationship between the parties. In this context, the financing of commercial transactions is limited in crises and also the financing cost - due to the increased risk and the risk premium taken into account - is rising considerably. It is based on changes in perceptions that the risk of default on all sides of economic activities will increase. In addition, in such periods, there are significant decreases in asset prices that can be used as collateral elements in borrowing processes; and hence first financing costs of banks and other financial institutions increase seriously; and then it increases for all economic agents in the system.

Moreover, during the recent global financial crisis, and also the economic recession caused by the Covid pandemic governments used large public resources to support the recovery of banks as well as companies and households. This was another major reason for the shrinkage of the resources used in international trade financing and increasing costs. (As is well known, liquidity shrinkage, i.e. decrease in financing resources, increases interest rates and the cost of financing.)

In such periods, risk perceptions of banks turn to seriously negative side and they adopt a “cherry picking” approach while lending to real sector companies. Thus, the loss of trust spills over not only among financial institutions, but also among trading real sector companies which sell their products on credit. As a result, such companies start to use financing techniques such as prepayments or letter of credit that are much costlier in comparison with open account etc. This style of behavior becomes especially widespread in the periods when the default experience becomes frequent. The result in the next stage is clearly substantial hardship in international trade: Therefore, all economic activity starts to contract not only the activities of those companies involved in international trade. This is a self-feeding cyclical processes. In short, the contraction in world trade is not surprising during crises periods and one of the major reasons for this is the contraction in international trade finance.

Moreover, it is obvious that international supply chains have gained much importance by now compared to the past. This has also increased the importance of trade and hence trade finance. In modern production systems, many companies of all sizes are integrated to global value chains either as an exporter or an importer. In other

words, they are either supply to foreign companies or source from them and, this creates a vital "dependency for existence". This is especially true for SMEs as they have serious resource concerns. The liability of smallness can perhaps bring flexibility, risk taking as well innovativeness, but at the end during hardship periods, it also causes larger vulnerabilities.

8.2 Small Firm Internationalization

SMEs are very important in all economies particularly due to their potential for employment generation. However, these companies are also forming the most vulnerable part of economies – as earlier mentioned - because of resource scarcity. In recent years, internationalization of SMEs has become a very popular topic for governments as well as international organizations such as the EU with the expectation of a potential cure for recession and unemployment following the Global Financial Crisis of 2000s, and the Covid pandemic. As already emphasized, the results of the recent global financial crisis indicate very well that a sudden loss of confidence (sometimes vice versa) stops business transactions even among the biggest banks and companies. Feeling of insecurity and rising interest rates in such periods cause companies to be more cautious in sales on credit terms in international trade. In these periods, SMEs are struggling in a much more difficult situation for reaching trade financing. In addition, their direct investment attempts are also badly affected mainly because they cannot – in many cases – deal with the risks involved. However, especially in economic contraction periods, SMEs are badly and particularly needed by everyone; people, governments, and other firms in the related value chains etc. Therefore, it is widely deemed that they should have access to international markets as exporters and even as direct investors. However, due to liabilities of smallness, – if they are newly established – due to liabilities of newness, and – when they go international to foreign markets as foreign direct investors or at least exporters – due to liabilities of foreignness, SMEs face significant hardship. This becomes worse when there are crises conditions are widespread.

Of course internationalization itself can be considered as a cure to such difficulties and risks. However, then to cure the problems, internationalization should be possible. When it reaches a mature stage, then small companies can carry on a much more stable track. To

this end, similar to a caring parent for a growing child, small companies should also be getting an external support at least in certain areas till they can reach the strength to compete in foreign markets on its own and built an international structure in which risk can be managed much more effectively.

We think that the recent global crisis, and also the Covid pandemic have clarified a number of issues with regard to the economic policy needs for stability, growth, use of finance as well as importance of state intervention to markets and economic systems. In this perspective, it has again once more been realized that export credit agencies may have and should have roles for their countries, especially for more vulnerable sections. SMEs are definitely an important issue in this discussion.

8.3 Export Credit Agencies

Export credit agencies emerged for the first time in the world in the European countries during the economic downturn following the First World War. The first export credit agency in the world was the Export Credit Guarantee Department established in 1919 in the UK. The aim of these institutions is to support exports or foreign direct investments of companies established in their own countries. Thus, they contribute to foreign trade and current account balances of their countries. These agencies mainly aim to eliminate market failures in their fields of activity. With the concept of 'market failure', it is pointed out that due to very high risk levels exposed while the business volume is small, insurance or credit transactions that can be provided by private sector intuitions would not be satisfactory as such private intuitions rather avoid entering that type of transactions under normal market conditions. Therefore, official export credit agencies were formed to undertake these avoided transactions. In other words, export credit agencies have not been rivals of their private counterparts but rather than they have had a complementary role since their inception. In other words, the main purpose of these institutions have been to contribute to the balance of foreign trade and payments of their respective countries by supporting exports and direct foreign investments of their countries by ensuring that risky transactions can be made to the extent that private sector controlled financial institutions are not able to enter. Therefore, export credit agencies mainly focused on raising the welfare of their communities (Stephens, 1999; Gianturco, 2001; Stephens and Smallridge, 2002).

Export credit agencies support their countries' exports and foreign investments by offering credit, guarantee and insurance facilities in favour of domestic or home companies. Some of the export credit agencies are organized in different structures focusing only on non-cash financing instruments such as insurance and guarantee, while others are organized in the form of export-and-import-banks, or eximbanks and use cash and non-cash instruments together. The financial resources to be used in these transactions are obtained both from the state budget of their own countries and by borrowing from domestic or foreign sources under the market conditions. However, the services provided by these agencies are at the core of being a source of information rather than just being a direct source of finance. In other words, they provide information and technical support to exporters, investors, and also to banks that provide financing to foreign trade or investment facilities to foreign buyers or borrowers.

Export credit agencies can carry out their activities in various ways: They can give exporters direct support or through the intermediation of commercial banks. They can create demand for the goods of their exporters with the purchasing power they generate by crediting the foreign buyers or the banks that will lend those buyers; insure the risks undertaken by exporters or their banks; or any other type of transaction (such as a loan, warranty or insurance) that may enter into this framework. Of course, in exchange for these transactions, they charge in the form of interest, guarantee commission or insurance premium from the beneficiaries. Therefore, it is generally recommended that export credit agencies normally should be managed with a purely commercial perspective (with an approach at least reaching the break-even point) without resorting to budgetary funds so much, even if they are state-supported (Stephens, 1999; Gianturco, 2001; Stephens and Smallridge, 2002). However, some export credit institutions such as Japanese JBIC are known for their support activities such as ‘subsidized’ loans and foreign investment insurance. For example, the Japanese state supported the foreign investments of Japanese companies during the period following the Second World War with such methods (Solis, 2003; Akçaoğlu, 2011). But international law through the OECD and WTO regulations is increasingly opposes these type of practices by claiming that they distort international trade movements. These institutions claim that companies should be in competition on the basis of quality and technology levels of goods or services offered to buyers in foreign markets instead of the financial payment conditions offered to buyers.

In the latter case, they claim, ideal market conditions and hence natural competitive structures are disrupted.

Export credit agencies are generally established in the form of public institutions. Although there are some privately-owned agencies as well, even those with private capital those agencies have been assigned with a public mission for some special cases and carry out public activities as well as commercial activities. Such public purposes are usually carried out through so-called national accounts.

States are often the guarantors of the risk that export credit institutions undertake in certain areas of activity. This is the main reason why export credit institutions can undertake the risks that private companies do not want to undertake. On the other hand, private-owned companies that finance foreign trade have previously been more willing to take on some of the risks undertaken by official export credit institutions, but the importance of state-sponsored export credit institutions is increasing. Particularly in undertaking political risks, these institutions play a substitute role in cooperation with private companies or private companies. As mentioned above, this is based on the fact that the states have assumed the ultimate reinsurer role. The ongoing economic crisis has greatly increased the need for such institutions due to the bankruptcy or weakening of the corporation with many privately-owned finance. Moreover, the easing of the economic contraction pressure created by the shrinking demand in times of crisis also caused the need for state or state-supported institutions to be strengthened.

Officially supported export credit institutions in different countries have been undergoing a transformation process for a long time. This process makes the restructuring of institutions inevitable due to the change in economic conditions over time (Ascari, 2007). For instance, the importance of foreign direct investments originating from developing countries is increasing day by day and the export credit institutions of these countries provide financial support to their companies' foreign investments through various instruments.

8.4 Increasing Importance of Export Credit Agencies

Considering the experience of export credit institutions in the world, it is seen that the success levels of these institutions are based on some significant elements. Gianturco (2001) stated that the sufficiency of the capital of an export credit institution, the organizational autonomy, the

constant feeling of state support, the ability to share the risk by other means with appropriate methods, to obtain sufficient interest-commission and premium income, the diversity of the fields of activity and the intensive marketing activities. it indicates that the quality of the senior management, the effectiveness of the business processes, the level of credit analysis skills, working under sufficient collateral and guarantees, and the level of technical expertise are the main factors determining the success. Some of these elements are discussed in more detail in the following paragraphs, taking into account their relations with the explanations in the following sections.

Variety of Fields of Activity

The success of an export credit institution is closely related to the diversity of its activities. A successful export credit institution should be carrying out credit, guarantee, insurance and consultancy activities together. The fact that an export credit agency operating in all of the mentioned areas will not only strengthen its contribution to increasing the country's total exports, but will also allow the lower profitability in some areas to be compensated by high profitability in other areas. Furthermore, all these areas support each other. For example, the presence of technical support or consultancy services can improve risk management processes and in this way supports better management of the risks incurred as a result of transactions with credit, guarantee or insurance products.

Nature of Management and Personnel

The management and operation of export credit institutions by professionals who have assumed or assumed responsibilities in private financial institutions prior to their duties in these institutions; they will increase the success of these institutions because they are familiar with profitable, flexible, efficient work and familiar with complex financial instruments. Therefore, export credit institutions should be able to offer their personal rights (wages and other rights) under similar conditions to their peers in the private sector in order to be able to employ (and hire) competent and equipped personnel.

Efficiency of Business Processes

In order for an export credit institution to be successful, workflow and administrative processes need to be simple and effective. The most successful export credit institutions are under one week to meet credit, guarantee and insurance applications. Checklists should be used in

workflows within the organization rather than correspondence. According to the size of the risk undertaken, the powers in the decision-making processes should be transferred to the subordinates in a way that accelerates the process.

Intensity of Marketing Activities

Marketing activities, including product development, should be one of the most important export credit institutions. Export credit institutions only provide information on financial support programs and consultancy services provided by exporters and the banks that mediate foreign trade and investment transactions through such activities. Marketing activities are also of great importance for the identification of the needs of exporters, foreign investors and the banks providing financing for such transactions and for the development of financial products or programs suitable for meeting these needs.

Superiority of Credit Analysis Skills

The level of skill of an export credit institution, such as any financial institution, on credit risk analysis will determine the quality of the risk that the institution undertakes. Moreover, the existence of any financial institution and its most important feature that distinguishes it from other companies are their credit analysis skills. Therefore, export credit institutions should be in an effort to maximize their expertise in this area.

Level of Technical Knowledge

Similar to credit skills, the success of an export credit institution is related to the complexity of the financial techniques and instruments it uses. The fact that the aforementioned techniques and instruments are not different from those used by foreign competitors affect the success of the institution. In addition, the institution should strive to transfer its technical know-how to other banks and financial institutions in its country.

Use of Appropriate Collateral and Guarantee Systems

The success of an export organization depends on the operations of guarantee mechanisms required by the risks it undertakes. The activities carried out require the risk to be assumed by the nature of the work. These risks should be managed with appropriate guarantees and guarantees.

Use of Appropriate Risk-sharing Mechanisms

The credit institution carries out the risks it undertakes as much as possible with the relevant private sector organizations (firms or banks); Where necessary and possible, reinsurance companies and other countries' export credit institutions should be shared with instruments such as reinsurance, joint insurance, joint guarantee facility or lending. In addition, it is vital that the political risks undertaken are covered by the state.

Availability of Appropriate Level of Interest, Commission and Premium Income

In order for an export credit institution to maintain its existence in a healthy manner, it must have a financial structure that does not suffer any loss (not below the break-even point) even if it is not profitable. This may be possible by properly pricing the risk under consideration and thus maintaining the capital of the export credit institution. Therefore, the interest rates applied by the export credit institution are at the level of market rates; the insurance premiums and guarantee commissions are subject to the appropriate price risk; they should be at a sufficient level to cover the claims and general expenses.

8.5 Conclusion

As can be seen above, the elements of success factors of ECAs mentioned above would be absolutely relevant for the needs of SMEs to carry on commercial and investment activities in foreign markets. During hardship times in economies, SMEs are struggling in a much more difficult situation for reaching trade financing, or considering foreign direct investment. With regard to direct investment attempts, in many cases the risks involved will just stop SMEs at the beginning of the process even before an attempt. Therefore, recalling the recent political and economic developments in the world economy causing a ‘new’ trade war era among major countries and regional economic blocks, and also the devastating effects of the Covid pandemic we argue that SME internationalization should be supported by external agents like Export Credit Agencies by using financial and non-financial tools and techniques. This area needs to be explored more deeply to understand all such options.

References

Akçaoğlu, E. (2005). Türk Firmalarının Dış Yatırımları: Saikler ve Stratejiler [Turkish Foreign Direct Investments: Motivations and Strategies], Banks Association of Turkey, İstanbul.

Akçaoğlu, E. (2011). "Devlet Türk Dış Yatırımlarını Desteklemelidir" [State should support Turkish FDI], Ostim Gazette, August 2011, pp.20.

Ascari, R. (2007) "Is Export Credit Agency A Misnomer? The ECA Response to A Changing World", (mimeo) SACE.

Baldwin, R. (2009). "The Great Trade Collapse: What Caused It and What Does It Mean?", WoxEU Publication.

Chauffour, J.-P. ve Farole, T. (2009). "Trade Finance in Crisis Market Adjustment or Market Failure?", World Bank Policy Research Working Paper 5003.

European Commission (2009). Economic Crisis in Europe: Causes, Consequences and Responses, Directorate-General for Economic and Financial Affairs, Office for Official Publications of the European Communities, Luxembourg.

Gianturco, D. E. (2001). Export Credit Agencies – The Unsung Giants of International Trade and Finance, Quorum Books, Westport.

Kalkan, S., Dündar, H. Ç. ve Dinççağ, A. (2010). "Türkiye'de Dış Ticaret ve Dış Ticaret Finansmanı: İhracattaki Düşüşte Finansman Sıkıntısı Ne Kadar Etkili?" [Foreign Trade and Trade Finance in Turkey: How Effective Financial Distress in Declining Exports], TEPAV Policy Note, TEPAV, May 2010, Ankara.

Stephens, M. (1999). The Changing Role of Export Credit Agencies, IMF, Washington, D.C.

Solis, M. (2003). "Adjustment Through Globalization – The Role of State FDI Finance", in Japan's Managed Globalization – Adapting to the Twenty-first Century (Eds: U. Schade ve W. Grimes), M. E. Sharpe, Armonk.

Stephens, M. ve Smallridge, D. (2002). A Study on the Activities of IFCs in the Area of Export Credit Insurance and Export Finance, Inter-American Development Bank, Buenos Aires.

WTO (2008). "Meeting of experts at the WTO 12 November 2008", Web site: http://www.wto.org/english/news_e/news08_e/trade_finance_12nov08_e.htm

Lewisa, Y., Bozos, K. (2019). Mitigat ng Post-Acquisition Risk: The Interplay of Cross-Border Uncertainties, Journal of World Business Volume 54, Issue 5 100996 November, 1 – 16.

Lyons, T.F., Krachenberg, A.R. and Henke J.W. Jr. (1990). Mixed Motive Marriages: What's Next for Buyer-Supplier Relations? Sloan Management Review, Vol. 31 No. 3, 29-36.

Min, H. (1994). International Supplier Selection: A Multi-Attribute Utility Approach., International Journal of Physical Distribution & Logistics Management, Vol. 24 Issue: 5, 24 – 33.

Min, H. and Galle, W.P. (1991). "International Purchasing Strategies of Multinational US Firms", International Journal of Purchasing and Materials Management, Vol. 27 No. 3, 9-18.
Oxford Analytica (2019). How Are Leading SMEs Managing Today's Political Risks? Survey and Report for Willis Towers Watson.
Pandya, S. (2016). Political economy of Foreign Direct Investment: Globalized Production in the Twenty-First Century. Annual Review of Political Science, 19, 455–475.
Salim, A., Setiawan M., Rofiaty R., Rohman, F. (2018). Focusing on Complaints Handling for Customer Satisfaction and Loyalty: The Case of Indonesian Public Banking, European Research Studies Journal, XXI (3), 404-416.
Shipley, J.P. (1991). MAPI Survey on Global Sourcing as a Corporate Strategy: An Update, MAPI Economic Report, Vol. ER-207, 1-19.
Soukup, W.R. (1987). Supplier Selection Strategies, Journal of Purchasing and Materials Management, Vol. 23 No. 2, 7-12.
UNCTAD (2018). World Investment Report, Geneva: United Nations. Retrieved September 25 2019 https://unctad.org/en/PublicationsLibrary/wir2019_en.pdf.
Taherdoost H., Brard A. (2019), Analyzing the Process of Supplier Selection Criteria and Methods, The 12th International Conference Interdisciplinarity in Engineering,
ScienceDirect, Procedia Manufacturing 32, 1024–1034.
Thomas G. (2010). Social Work Research, School of Social Work, ISBN: 978-81-266-4773-6, Indira Gandhi National Open University.
Xie, E., Reddy, K.S., Liang, J. (2017). Country-Specific Determinants of Cross-Border Mergers and Acquisitions: A Comprehensive Review and Future Research Directions, Journal of World Business 52, 127–183.
Yin, R. K. (2014). Case Study Research Design and Methods (5th ed.). Thousand Oaks, CA: Sage.
Vortherms, S., Zhang J. J. (2019). Political Risk and Firm Exit: Evidence from the US-China Trade War, 21st Century China Center Research Paper No. 2021-09.
Weber, C.A., Current J.R. Benton W.C. (1991). Vendor Selection Criteria and Methods, European Journal of Operational Research, Vol. 50 No. 1, 2-18.

9

Demonstration of the Impact of Enterprise Architecture Management in a Company by Using Frameworks

Ronja Höpfner and Bjarne Erik Roscher

9.1 Internal and External Influences on Organisations and How Enterprise Architecture can help

Due to the fourth industrial revolution, companies are in a VUCA world. VUCA describes the environmental influences of instability, uncertainty, complexity and ambiguity on the corporate world (Alaloul et al., 2020). Within a company, VUCA influences the organization, processes and locations as well as, from a technical point of view, the systems, data and technologies of a company (Minciu et al., 2020) (see Figure 10.1). The challenge for companies is to take advantage of the new realities and to act instead of reacting in a world characterized by inconsistencies, uncertainties, complexity and ambiguities.

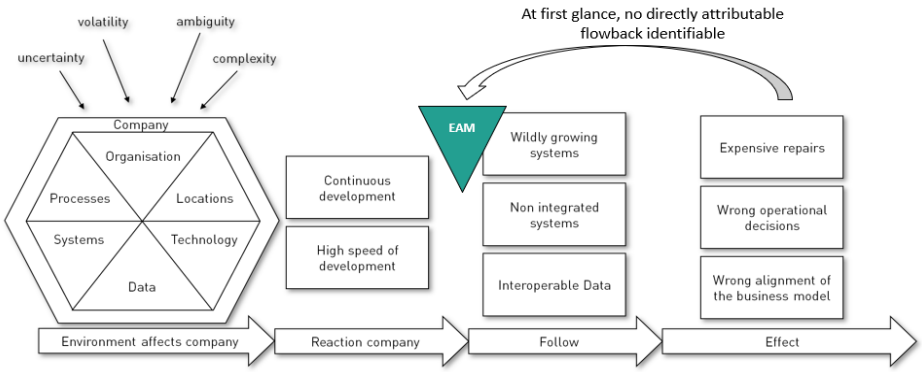
As a response to this challenge, and thus as a competitive advantage, companies see the increase in development speed and the continuous development of systems for handling ever larger amounts of data. (Bernardis et al., 2017; Tannady et al., 2020; Hierzer, 2017).

In addition to the expected benefits, this step can also have negative effects on the company. Rapid and continuous development can encourage a proliferation of non-integrated systems. The consequences are redundancies, inconsistencies and a different

understanding of the maintained data as well as increased complexity and insufficient support of processes in a holistic view.

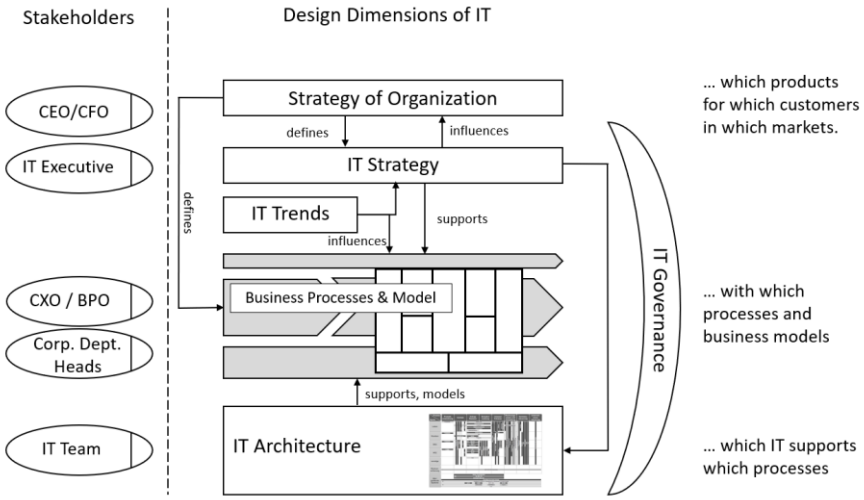
The effects of the mentioned consequences are expensive "repair processes". In addition, incorrect data bases lead to wrong decisions in the operative business, up to a possible wrong alignment of the business model. This has incalculable consequences that can ultimately threaten the very existence of the entire company.

Figure 9.1 VUCA is the Driver for IT Landscape and IT Operation



Source: Author' illustration

Figure 9.2 Design Dimensions of IT and its Stakeholders within the Organization



Source: Authors' construction based on Durst's IT design dimensions (Durst, 2007)

In addition to the aspects mentioned and the additional challenges in the context of IT security, such as the protection of company secrets and personal data, this makes a system landscape / architecture that is controlled across all levels, but still lean and modern, essential (Hierzer, 2017). Ensuring this in the long term is the task of effective and efficient Enterprise Architecture Management (EAM).

From an IT management point of view EAM is the operative part of the design dimensions available. IT strategy supports one side business processes and business models, yet the provision of the Enterprise Architecture supports the it on a day to day bases. Figure 10.2 shows the necessary building blocks and the involved stakeholders in the organizations (Durst, 2007; Höpfner et al., 2021).

9.2 Problem Statement and Research Question

EAM offers a comprehensive answer for the initial situation presented above. It shows the current use of information technologies in the company and provides a roadmap to achieve a future state. As a "hinge" between IT and business, EAM thus enables IT costs for development and operation to be controlled proactively and the complexity of the application landscape to be managed (Keuntje et al., 2010; Bente et al., 2012). The problem here is that, at first glance, no directly attributable return flow can be calculated for EAM in a classic business calculation (Durst, 2007). The business is only indirectly secured and enabled, whether by avoiding risks or taking advantage of opportunities. Therefore, there is a lack of an instrument to quantitatively and qualitatively evaluate and present the benefits of EAM (Höpfner et al., 2021).

Overall Research question for Research Project:

- How can the effect of enterprise architecture management on business success be quantified to demonstrate its business imperative?

In order to achieve this, this chapter aims to answer following questions by using of literature analysis:

- Where in the company is EAM used?
- Are there existing models that show where EAM is used in the company?
- At which points in the company does EAM generate added value?

Literature Review Methodology

The literature review methodologies used in this specific research are the “method of concentric circles" or the backward-looking search uses the bibliography of a central source as an entry point for a literature search. As the cited sources are of mostly older (Nienhüser et al., 2003; Kornmeier, 2018). Further methodologies have been used, which are the “systematic search”, which included electronic media, reference works, book catalogues and journal directories. The advantage was a comprehensive overview of the subject area examined (Nienhüser et al., 2003; Kornmeier, 2018; Becker, 2012). Finally, the method of “forward search” was used starting at central sources and investigated which authors used this publication in its citations. The review used the Social Science Citation Index (SSCI) to carry out the search (Nienhüser et al., 2003; Kornmeier, 2018).

9.3 EAM Architecture and Frameworks

An Enterprise Architecture (EA) is a structured representation of the company structure from an information point of view. It shows the current and future use of IT in the company from a structural and process-organizational perspective and how it is interlinked with company processes (Bente et a., 2012; Siepermann et al., 2018).

The Enterprise Architecture Management (EAM) is the implementation and control of the Enterprise Architecture and is according to Keuntje et al. described as follows: “EAM is a useful tool for both cost and performance-oriented management of IT. It makes it possible to proactively control IT costs for development and operation and to manage the complexity of the application landscape (Keuntje et al., 2010). The Chair of Computer Science at the University of Munich also supports this very IT-related definition and names the continuous and iterative process for optimizing IT as one of the core tasks of EAM. Nevertheless, EAM also takes business processes, business goals, strategies, etc. into account (Matthes et al., 2005). The German Association for Information Technology, Telecommunications and New Media (Bitkom) takes up this last aspect even more and describes EAM in its publication from a company perspective: “An Enterprise Architecture (EA) describes the interaction of business processes and IT in the company and thus represents provide a strategic, conceptual and organizational framework for the design of the IT landscape. An EA can make a significant contribution to the design and

implementation of corporate goals" (Bitkom, 2011). The focus here is on the fact that EAM is a mediator between business and IT. Other literature sources share this view (The Open Group, 2018; Zachman, 1987; Kluge, 2006).

According to Langenberg et al. (2004), there is no established definition for EAM. This can be confirmed after an analysis of the literature, but many similarities can be found in the definitions. In particular, the key words cost and performance improvement in IT, EAM as a link between business and IT, complexity management and the design of an IT roadmap are mentioned in the various definitions. A separate definition is therefore used for this work, which contains all the important components of the EAM (see Table 9.1):

Table 9.1 Definition of EAM - results from literature review

Definition of EAM	Literature Sourece: Keuntje et al., 2010	Matthes et al., 2005	Bitcom, 2011	The Open Group, 2018	Zachmann, 1987	Kluge, 2006	Langenberg et al., 2004
EAM creates transpareny about the IT landscape			X	X	X	X	X
EAM visualizes the IT influence on business processess		X	X	X	X	X	X
EAM models a target-oriented IT strategy	X				X		X
EAM supports to maintain a complexe IT landscape	X	X		X	X		
EAM reduces IT coast	X	X					
EAM enables a powerful IT landscae	X	X					

Source: Authors' literature analysis

"Enterprise Architecture Management comprises two areas. On the one hand, from a business perspective, EAM creates transparency about the IT landscape and its influence on company processes. Therefore, an IT strategy geared towards corporate goals can be designed and the complexity of the IT landscape can be mastered. On the other hand, EAM enables the IT landscape to be designed cost-effectively and, at the same time, to be powerful" (Höpfner et al., 2021).

Zachmann Framework

John A. Zachmann's EA framework was published by IBM as early as 1987 with the intention of enabling a holistic view of architectures at the enterprise level. As one of the first EAM frameworks, this influenced today's understanding of enterprise architectures (EAs). (Hanschke, 2012). The Zachmann Framework provides description concepts to represent the interfaces of components of an information system and their integration into the organization. (Hanschke, 2012). For this purpose, the framework (see Figure 9.3) breaks down the enterprise architecture into sub-parts and describes from which perspectives these should be considered in order to successfully set up the enterprise architecture. The decomposition of the overall architecture also reduces the complexity and the risk for the overall system (Masak, 2009; Rouse, 2018).

The framework is a 6 x 6 matrix, where the rows correspond to views for different stakeholders (planner, owner, designer, builder, programmer, user) on the development architecture and the columns define different levels of abstraction on which only certain properties of the system are considered (Data, Function, Network, People, Time, Motivation).

Broken down, the planner identifies from his executive perspective successively through five "W-questions" ("What?", "How?", "Where?", "Who?", "When?", "Why?"):

- which business objects are important;
- which resulting tasks have to be performed;
- at which location or in which system the tasks are executed;
- which resource performs the business activity;
- when events occur as a result of the tasks to be performed; and
- the goals, means and purpose of the business objects.

The owner defines the business model from his perspective, just as the planner defines the business model through the W-questions. For this purpose, a data model, the enterprise process model, a holistic logistics system, a model for recording the workflows of employees / resources, as well as a master schedule and a business plan are developed.

The designer represents the architecture perspective and provides information on the system logic. He thus defines both the boundaries

of an IT system within the business and those of the logical model of the system.

The builder specifies the technical system model from the engineering perspective.

The person responsible for implementation (programmer) then configures the system components from the technical perspective and controls the required suppliers. Since the information of the programmer is mostly limited to specific components, they are not to be seen in the total context of the whole system.

The user describes last from its view the current enterprise. The respective work results are shown in Figure 9.3 (Schacher and Grässle, 2006; Wittenburg, 2007; Zachmann, 2008).

Figure 9.3 Zachmann Framework

	DATA *What*	**FUNCTION** *How*	**NETWORK** *Where*	**PEOPLE** *Who*	**TIME** *When*	**MOTIVATION** *Why*
Objective/Scope (contextual) *Role: planner*	List of things important in the business	List of Business Processes	List of Business Locations	List of important Organizations	List of Events	List of Business Goal & Strategies
Enterprise Model (conceptual) *Role: owner*	Conceptual Data / Object Model	Business Process Model	Business Logistics System	Work Flow Model	Master Schedule	Business Plan
System Model (logical) *Role: designer*	Logical Data Model	System Architecture Model	Distributed Systems Architecture	Human Interface Architecture	Processing Structure	Business Rule Model
Technology Model (physical) *Role: builder*	Physical Data / Class Model	Technology Design Model	Technology Architecture	Presentation Architecture	Control Structure	Rule Design
Detailed Reprentation (out of context) *Role: programmer*	Data Definition	Program	Network Architecture	Security Architecture	Timing Definition	Rule Speculation
Function Enterprise *Role: user*	Usable Data	Working Function	Usable Network	Functioning Organization	Implemented Schedule	Working Strategy

Source: Authors' illustration based on Zachmann (2008)

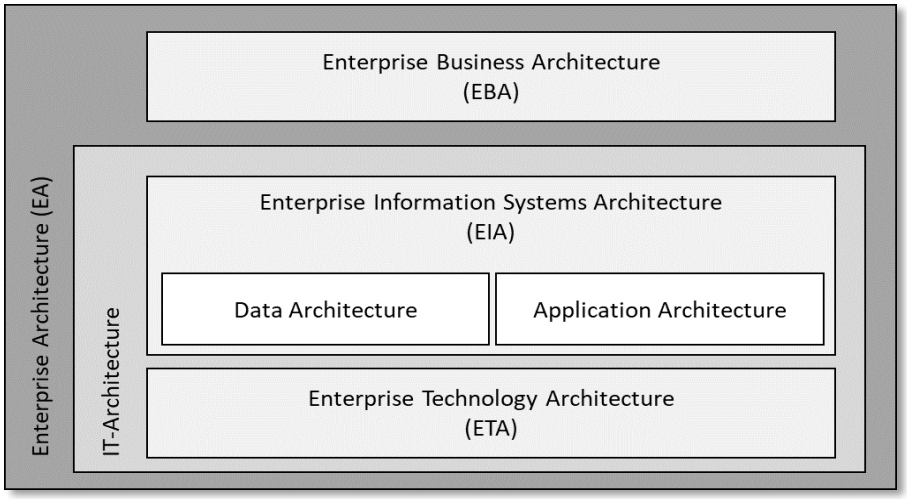
TOGAF

Probably the best known framework is "The Open Group Architecture Framework" (TOGAF). This is a set of methods for the introduction and continuation of enterprise architectures. As with other IT management frameworks, the focus is on what to do when introducing an EA and less on how to do it. Enterprise implementations may therefore differ in execution (Keller, 2017).

Enterprise architecture according to TOGAF can be divided into three domains, business architecture, information architecture, and technology architecture (see Figure 9.4). The Enterprise Business

Architecture (EBA) describes the organization and the implementation strategy of the enterprise to achieve the business goals. For this purpose, the organizational structure, the business processes and the business capabilities of the enterprise are considered. Business Process Management (BPM) is seen as part of EBA. (The Open Group, 2020; Bitkom, 2011). The Enterprise Information Architecture (EIA) describes how the company's information systems support the business in order to implement the business architecture and the architecture vision, taking stakeholder concerns into account. For this purpose, the data architecture and the application architecture must be created as part of the information system architecture. (The Open Group, 2020; Weinberger, 2020). With the help of the data architecture, the required data and their relationships for the business processes are identified and described. (The Open Group, 2020). The application architecture, manages and controls the applications for executing the business processes. In addition to managing the applications, their interfaces and relationships are identified and maintained to identify dependencies (The Open Group, 2020; Tannady et al., 2020). The lowest level of enterprise architecture is the enterprise technology architecture (ETA). This is the architectural element for building and operating the IT infrastructure. This includes, for example, computer environments, hardware and network specifications, and load distribution to individual technology components (The Open Group, 2020).

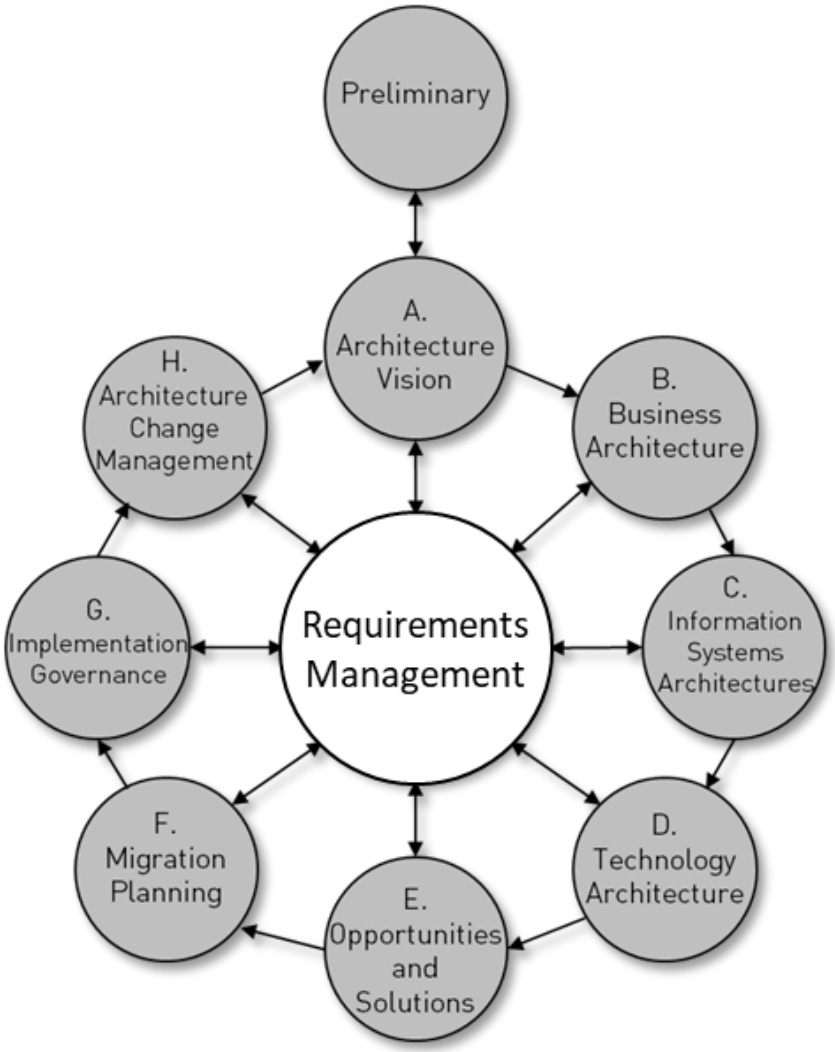
Figure 9.4 TOGAF-Model



Source: Authors" illustration based on Weinberger (2020)

The TOGAF architecture development process comprises eight phases (see Figure 9.5) for developing the enterprise architecture described above. Behind each phase is a checklist of what needs to be done in the respective phase and what results are expected. The architecture development process is to be understood as iterative, with which the architecture is continuously developed. (Keller, 2017).

Figure 9.5 Architecture Development Method (ADM)



Source: Authors' illustration based on The Open Group (2018)

In the first phase (Preliminary & Phase A), the vision for the new architecture is developed and the team for implementation is defined. In the next three phases (Phase B - D), the respective target and actual architecture of the business, information system and technology architecture are recorded one after the other with the help of the architecture vision. In the subsequent phase E, the task is to determine how the previously specified architectures are to be implemented. To this end, a migration plan is drawn up in the sixth phase (Phase F), which is then implemented under supervision. Finally, (phase H), the findings from the seven previous phases are collected and serve as the basis for the next run of the continuous architecture development process. It should be noted that requirements management must be carried out during the course of the phases in order to take into account the wishes of the stakeholders for the enterprise architecture.

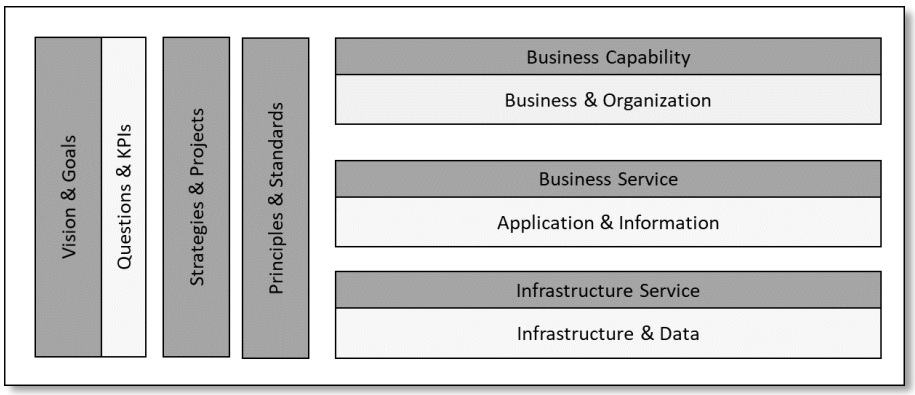
TUM Model

The Enterprise Architecture Model of TUM (see Figure 9.6) represents a further development of the TOGAF framework and describes all relevant elements of an enterprise architecture including its cross-cutting functions. (Matthes et al.; EAM KPI Catalog, 2011).

The first level of the model is the "business capability" level (= business and organizational level), which in TOGAF can be equated with the business architecture level and reflects enterprise-related entities, such as the processes, products and organizational units. The processes in combination with the people and resources provide the so-called business capabilities. The "business service" layer (= application and information layer), as the second layer (TOGAF = information system architecture), deals with applications and information, their dependencies and associated elements. The services provided by the applications for the enterprise are referred to as "business services". The third level, "Infrastructure Service" (= infrastructure and data layer) corresponds to the technology architecture level in TOGAF and deals with the provision of the technical infrastructure and data in the form of infrastructure services. It forms the data basis for the other levels. The cross-cutting functions relate to all of the aforementioned levels. The cross-cutting function "Vision & Goals" shows the need for action at the respective levels, from which strategies and projects (= 2nd cross-cutting function) are derived. "Principles & Standards", as the third cross-cutting function, are guidelines and rules that must be followed when analysing, describing and adapting the respective EA

elements. Strategies and projects serve the realization of the "Vision and Goals" on the individual levels. Their success measurement is enabled by questions and KPIs (Wittenburg, 2007).

Figure 9.6 TUM-Model



Source: Authors' illustration

Further Development of the Framework

However, it is not clear from the existing frameworks how EAM integrates into the overall corporate context and how EAM affects the customer. In order to incorporate this view, the existing frameworks must be developed further (see Figure 9.7). The TUM framework, which will be further developed in the following to meet the requirements of a systemic view, serves as a jumping-off point for this.

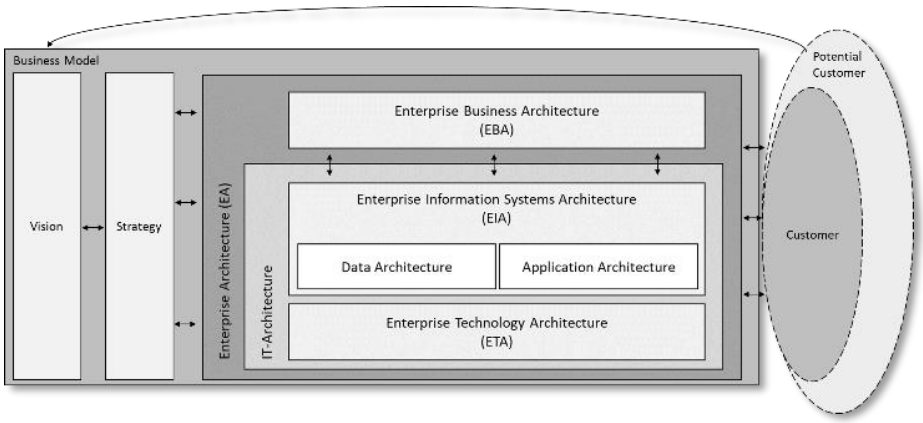
The enhanced EAM framework depicts the impact of EAM in a chronological sequence within the enterprise.

The enterprise is composed of two parts. The business model as a bracket for all activities of the enterprise and the EA, from which the enterprise architecture is provided. In addition, the customer is also represented. This is differentiated into existing customers, which are to be kept and potential new customers, which are to be won.

In the process, a vision is first established for the company, goals are set based on this vision, and strategies are derived. These have an influence on both the business and the enterprise architecture. The business model comprises the tasks of the business unit.

From a technical point of view, EAM supports the business in achieving its goals. To this end, EBA explicitly supports the business unit in defining and implementing business processes from a business and employee-related perspective along the vision and strategy. The goal is to optimize business processes using BPM tools and systems to satisfy customer needs and meet strategic and operational business objectives. Between the business architecture and the IT architecture, EAM creates the interaction of business and IT. The goal is to bring together the IT view of processes and the business view of processes.

Figure 9.7 Developed EAM-Framework



Source: Authors' illustration

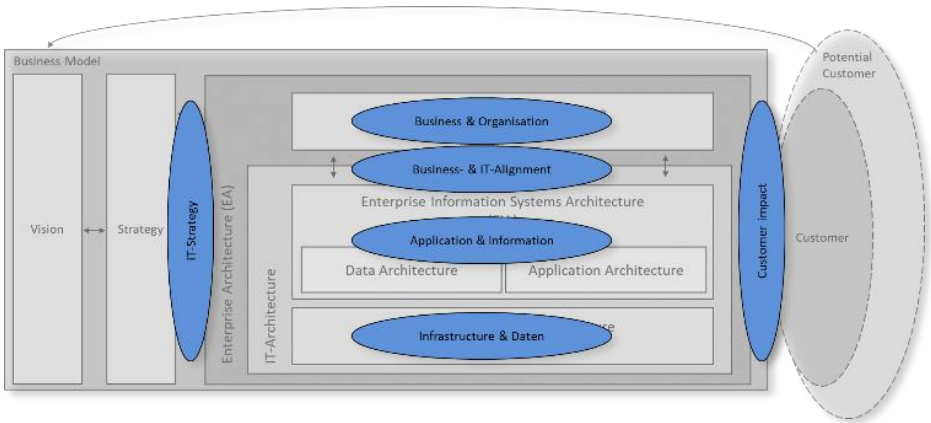
The enterprise architecture, in the interaction of EBA, EAI and ETA, is the basis for jointly and quickly providing the right products and services for the customer with a high level of customer satisfaction.

The goal is not only to satisfy existing customers, but also to reach, attract and retain new customers. Information on the success of the business model must be reported back in order to identify potential for improvement and to continuously develop the vision, strategy and business model.

9.4 Results

By embedding EAM in the context of the company as a whole, it is possible to identify the points at which EAM is effective and generates added value for the company. The resulting added values are not part of this work and are therefore bundled in clusters.

Figure 9.8 EAM-Framework with cluster of added values



Source: Authors' illustration

The individual clusters are presented below:

IT-Strategy: The "IT Strategy" cluster comprises cross-architecture added values that enable successful implementation of the strategy derived from the corporate vision. In addition, the added values contribute to the further development of vision and strategy (business enabling).

Business- & IT-Alignment: The EAM added values, which are assigned to the "Business & IT Alignment" cluster, relate to the interaction between business and IT. The goal is to bring together the IT view of processes and the business view of processes and to derive measures for the company to make the business more efficient and effective. Citizen development" can be cited here as an example, in which IT enables the business to independently build workflows, dashboards, etc. and monitor the individual solutions as part of a governance function (Dehghani, 2019).

Business & Organization: In the "IT Business & Organization" cluster, efficiency improvements are achieved in terms of organizational structure, business processes and achievement of business goals from the IT perspective.

Application & Information: Added values are assigned to the "Application & Information" cluster, which effectively design and efficiently operate the system landscape and reveal data and their relationships. The application and information system architecture is optimally designed.

Infrastructure & Data: The assigned added values of the "Infrastructure & Data" cluster improve the setup and operation of the IT infrastructure. These include computer environments, hardware and network specifications, and load distribution across individual technology components. In addition, the goal is to keep data complete and free of inconsistencies.

Customer impact: The latter cluster, "customer impact," includes EAM value-adds that aim to collaboratively and quickly deliver products and services with high customer value to the right customer.

9.5 Conclusions, proposals, recommendations

The further developed EAM framework provides an overview of the impact points of EAM in the holistically considered company. EAM added values arise at the points of impact, which need to be defined in an outsourced investigation. These added values should be quantified and examined with further investigations regard the risk of not implementing EAM in organizations.

References

Alaloul et al., W. (2020). Industrial Revolution 4.0 in the construction industry: Challenges and opportunities for Stakeholders. Ain Shams Engineering Journal, Vol. 11., S. 225-230.

Becker, F. (2012). Zitat und Manuskript - erfolgreich recherchieren, richtig zitieren, Formal korrekt gestalten. Bilefeld: Schäffer-Poeschel Verlag.

Bente et al., S. (2012). Collaborative Enterprise Architecture. USA: Elsevier Inc.

Bernardis et al., A. (2017). Auf zu neuen Ufern. Harvard Business Manager: Agiles Management, April Ausgabe. Jg. 17, S. 6-12.

Bitkom. (2011). Enterprise Architecture und Enterprise Architecture Management. Bitkom, Enterprise Architecture Management– neue Disziplin für die ganzheitliche Unternehmensentwicklung, (S. 11-15). Berlin: Bundesverband Informationswirtschaft, Tele-kommunikation und neue Medien e. V.

Dehghani, Z. (20.05.2019). How to Move Beyond a Monolithic Data Lake to a Distributed Data Mesh. Von martinFowler.com: https://martinfowler.com/articles/data-monolith-to-mesh.html#CentralizedAndMonolithic, abgerufen am 25.01.2021.

Durst, M. (2007). Werteorientiertes Management von IT-Architekturen. Wiesbaden: Deutscher Universitäts-Verlag.

Hanschke, I. (2012). Enterprise Architecture Management: Einfach und effektiv. München: Carl Hanser Verlag München.

Hierzer, R. (2017). Prozessoptimierung 4.0: den digitalen Wandel als Chance nutzen. Freiburg: Haufe-Lexware.

Höpfner et al., R. (2021). Enterprise Architecture Management: requirements for conception of Key Figures to ensure transparency and efficiency. Amsterdam: 4th international Conference on Advanced research in Business, Management & Economics.

Keller, W. (2017). IT-Unternehmensarchitektur: Von der Geschäftsstrategie zur optimalen IT-Unterstützung. Heidelberg: dpunkt.verlag.

Keuntje et al. (2010). Enterprise Architecture Management in der Praxis. Düsseldorf: Symposion Publishing GmbH.

Kluge, C. (2006). How to realise corporative value from enterprise architecture. Goteborg: IT University of Goteborg.

Kornmeier, M. (2018). Wissenschaftlich schreiben leicht gemacht. Bern: Haupt Verlag.

Langenberg et al, K. (2004). Enterprise architecture: What aspects is current research targeting? EPFL Technical Report IC/2004, S. 77.

Masak, D. (2009). Digitale Ökosysteme. Berlin-Heidelberg: Springer Publishers.

Matthes et al., F. (2005). Enterprise Architecture Management Tool Survey 2005. Von https://wwwmatthes.in.tum.de/pages/k1qtzwl1a4hm/Enterprise-Architecture-Management-Tool-Survey-2005 abgerufen am 25.01.2021.

Matthes et al., F. (2011). EAM KPI Catalog. München: Technische Hochschule München.

Minciu et al., M. (2020). New decision systems in the VUCA world. Management & Marketing. Challenges for the Knowledge Society, Vol. 15, No. 2., S. 236-254.

Nienhüser et al., W. (2003). Die wissenschaftliche Bearbeitung personalwirtschaftlicher Problemstellungen. Eine Einführung. Essen, Deutschland. Essener Beiträge zur Personalforschung. Essen: Lehrstuhl für Allgemeine Betriebswirtschaftslehre.

Rouse, M. (04.2018). Zachman Framework. Von Whatis.com: https://whatis.techtarget.com/de/definition/Zachman-Framework abgerufen am 25.01.2021.

Schacher, M., & Grässle, P. (2006). Agile Unternehmen durch Business Rules. Heidelberg: Springer.

Siepermann et al., M. (19.02.2018). Enterprise Architecture. Von Gabler Wirtschaftslexikon: https://wirtschaftslexikon.gabler.de/definition/enterprise-architecture-54012/version-277071 abgerufen am 25.01.2021.

Tannady et al., H. (2020). Enterprise Architecture Artifacts Enablers for IT Strategy and Business Alignment in Forwarding Services. International Journal of Advandes Trends in Computer Science and engineering, Vol. 9, No. 2., S. 1465-1472.

The Open Group. (2018). The TOGAF Standard, Version 9.2. Van Haren Publishing.

The Open Group. (15.04.2020). 10. Phase C: Information Systems Architectures - Application Architecture. Von https://pubs.opengroup.org/architecture/togaf92-doc/arch/ abgerufen am 25.01.2021

The Open Group. (15 04.2020). 11. Phase D: Technology Architecture. Von https://pubs.opengroup.org/architecture/togaf92-doc/arch/ abgerufen am 25.01.2021

The Open Group. (14.04.2020). 7. Phase B: Business Architecture. Von TOGAF 9.1: https://pubs.opengroup.org/architecture/togaf92-doc/arch/ abgerufen am 25.01.2021

The Open Group. (15. 04. 2020). 8. Phase C: Information Systems Architectures. Von https://pubs.opengroup.org/architecture/togaf92-doc/arch/ abgerufen am 25.01.2021

The Open Group. (15. 04. 2020). 9. Phase C: Information Systems Architectures - Data Architecture. Von https://pubs.opengroup.org/architecture/togaf92-doc/arch/ abgerufen am 25.01.2021

Weinberger, D. (15. 04. 2020). ...und am Anfang steht die Geschäftsanordnung, oder? Von https://www.sigs-datacom.de/uploads/tx_dmjournals/weinberger_OS_EAM_10.pdf abgerufen am 25.01.2021.

Wittenburg, A. (2007). Softwarekartographie: Modelle und Methoden zur systematischen Visualisierung von Awendungslandschaften. München: Technische Universität München.

Zachmann, J. (2008). The Concise Definition of The Zachman Framework by: John A. Zachman. Von https://zachman.com/about-the-zachman-framework abgerufen am 25.01.2021.

10

Teaching International Business via Labs: Business Skills Development by Virtual and Augmented Reality – the BBS FIMB Case Study

Gábor Andrási, Katalin Csekő and László Budai

10.1 Introduction

This chapter is related to internationalization in the digital economy, from the perspective of business education. The aim of this chapter is to contribute to the literature on the importance of technology in preparing future entrepreneurs, managers, and business experts for being successful in the digital economy, and to raise awareness of a specific limitation of academic freedom related to the use of technology in international business education. It commences with an overview of how business skills can be developed by using virtual and augmented reality in labs within international business programmes and presents the related practices at the Faculty of International Management and Business of the Budapest Business School University of Applied Sciences. The chapter concludes with the special risk associated with using real company data in such labs: academic export compliance is a challenging issue that business educators need to address.

10.2 Developing Business Skills by Virtual and Augmented Reality: An Overview

Meeting the demands of both students and their employers is a well-known strategic imperative for business schools (Hawawini, 2005). Such demands include being innovative in curriculum design and delivery, involving the stakeholders in, and using information

technology during educational processes (Acito, McDougall and Smith, 2008; McFarlane, 2014; Nikitina and Lapina, 2017). Finding the proper mix of business content and technical solutions is paramount for business educators (Kesten and Lambrecht, 2010). The most eminent international business accreditation systems put emphasis on technology-enhanced learning, as it adds value to the programmes (EFMD, 2020), and expects that learners and faculty are competent with current and emerging technologies (AACSB, 2020). The global pandemic also highlighted the importance of technology in education: Krishnamurthy (2020) asserted that this disruption is going to lead to a decade-long technology-led remaking of business education.

According to the academic literature, embedding experiential learning opportunities in international business education could lead to enhanced employability and early career performance (Johnson and Jordan, 2019), and online laboratories are a very useful support for the practical aspects of teaching (Wuttke, Henke, and Ludwig, 2005). In such lab settings, augmented reality (AR) and virtual reality (VR) are proven tools for developing a variety of business skills, and fitting into contemporary learning theories, such as constructivist, situated, enquiry-based and games-based learning (Bower, Howe, McCredie, Robinson, and Grover, 2014). AR systems provide an efficient learning opportunity with coexisting real and virtual objects. Such virtual objects can be text, images, video clips, sounds, 3D models and animations (Bower, Howe, McCredie, Robinson, and Grover, 2014). VR refers to immersive, realistic, three-dimensional environments through the sense of sight, by using visualization goggles; through touch, by wearing haptic gloves; and through hearing by using headphones (Fernandez, 2017; Hu-Au and Lee, 2017). These technologies are innovative and effective educational tools, especially recommended for teaching students belonging to Generation Z, who have experienced their life in a mix of virtual and physical reality (Hernandez-Pozas, and Carreon-Flores, 2019). Studies found that these technologies increase motivation and engagement in learning activities, benefitting the students' learning experience, making skills transfer to real-life applications simpler and easier, and supporting understanding of complex concepts (Bower, Howe, McCredie, Robinson, and Grover, 2014; Fernandez, 2017; Lee, Sergueeva, Catangui and Kandaurova, 2017). AR and VR were found effective in improving presentation skills (McGovern, Moreira and Luna-Nevarez, 2019), practising negotiation and intercultural communication skills (Hernandez-Pozas, and Carreon-Flores, 2019), developing virtual

collaboration skills (Gonzalez-Perez, Velez-Calle, Cathro, Caprar and Taras, 2014), and promoting collaborative and autonomous learning (Martín, Fabiani, Benesova, Meneses and Mora, 2015). Concerning international business subjects, these technologies successfully supported the teaching of product development with a practical approach (Lee, Sergueeva, Catangui and Kandaurova, 2017), professional-oriented disciplines such as "Personnel Management", "Marketing" and "Organization of Production" (Panchenko, Haleta and Chernenko, 2020), and allowed students to be creative without fear of manufacturing risks and costs (Fernandez, 2017).

Further to the above-mentioned development of international business skills, such technologies can also shift the location and timing of education, providing opportunities for adjustment of the mode of the delivery of academic programmes and related trainings (Lee, 2012). However, researchers did not just commend them, but also raised the issue of the importance of the training of teachers. The role of the educator is a critical factor and faculty members are often found ill equipped either technically, for deploying these technologies to their full potential, or pedagogically, for properly embedding them into the design and delivery of courses (Bower, Howe, McCredie, Robinson, and Grover, 2014; Fernandez, 2017; Jonathan, 2012). Concerning the latter issue, Bower, Howe, McCredie, Robinson and Grover (2014) warned against regarding students simply as users and argued for involving them into designing technology-fuelled experiences, in order to develop their higher order thinking capabilities, such as analysis, evaluation and creation.

The next section presents how our university, in collaboration with a multinational company, introduced AR and VR in lab settings into international business education, and what specific challenges they faced in relationship with training of faculty members.

10.3 Teaching International Business Skills Via Lab at BBS FIMB

Budapest Business School University of Applied Sciences (BBS) is market leader in business education in Hungary and recognised for its practice-oriented academic programmes (BBS, 2021). One of its faculties, the Faculty of International Management and Business (FIMB) started a flagship collaboration with an international company in 2018, focusing on the development of the Smart Shop Floor logistics

simulation laboratory. The driver of this development was the forecast for the industry: according to Brusilovsky (2001), because of robotization and automatization, millions of jobs will be lost but millions new jobs will also emerge. There will be a demand for employees who are able to take part in and develop the automatization and robotization of logistics processes. Thus, the knowledge of industry 4.0 technologies will be unavoidable for the employees of the future. Laboratories provide a useful learning opportunity for future employees: learning how to use the latest technology in a real environment is not always possible, but in a lab, one can find the smaller version of the same industrial robot that is working in the real environment with the same programming. Simulating real logistics processes by using technology is another advantage of labs (Wang, Wang, Song and Su, 2020).

Based on the above, the Smart Shop Floor logistics simulation laboratory was developed at BBS FIMB to provide students and partners with an opportunity to carry out and conduct impact assessments of logistics processes in an environment simulating real organisational practices. The main objective of the lab is to support future employees in being successful in this fast-changing world, preparing them for jobs in an industry with high-level digitization, robotization, and automatization.

10.4 The Smart Shop Floor Logistics Simulation Laboratory

The laboratory contains a physical smart factory model and other related software, including AR and VR solutions and simulations. Entering the lab, one can see a whole factory simulation training model. This consists of several individual models, such as an "automated high-bay warehouse", a "multi-processing station with oven", a "vacuum gripper robot" and a "sorting line with detection". By linking several stations, the processes can illustrate a machining line. The model has four 24 Volt printed circuit boards and can be controlled via any conventional programmable logic controller. This way a student can code a completely unique application and directly control the inputs and outputs. Individual programmes need to be matched to each other, to avoid collision.

The physical model provides students with the following sequence of steps for simulating logistics processes. The vacuum gripper robot

loads the rack feeder of the automated high-bay warehouse with work pieces, such as raw materials or packaged goods. This stores the work pieces in the high-bay warehouse, sorted according to colour. The work pieces are then taken out of storage again, brought to the multi-processing station, and worked there. The worked work pieces are sorted in the sorting line according to colour and conveyed into storage locations. From there the work pieces are picked up again by the vacuum gripper robot and transported back to the high-bay warehouse. The steps for these logistics processes are also available in an AR/VR environment.

By the time the students start to work on the workstations of the production line simulation, they have already participated in courses preparing them for the application of the model, and in courses about industry 4.0 and SAP Enterprise Resource Planning system. The production line of the laboratory includes seven workstations and removal and storage units. Each workstation has a work description, containing information about what to do with the semi-finished product and the raw materials arriving there. From the removal unit, raw materials are delivered to the first workstation with a Radio Frequency Identification (RFID) bracelet. From here, RFID and Cross-Domain Development Kit (XDK) sensors can be found around each workstation, which are watching the activities, movements of the students and booking relevant data automatically into the SAP ERP. The data are suitable for assessment, analysing the students' production simulation works and drawing conclusions from them (e.g., controlling the cycle times, accomplishing KPI-s, data visualizations, etc.). From the last workstation, the finished products are place into storage units, which are registered by a company-specific software programme called the Prod'Action system, on the so-called slot level. Each workstation has a monitor, on which the students can see information in connection with current production on the SAP interface and other data visualization interfaces. Students participate in three production cycles and at the end of each cycle there is an evaluation. During the evaluations the number of products and their quality are checked, to find the optimal solution for efficient production. Students can make optional modifications on the production line: they can stop, fuse workstations, regroup the labour force etc. Their main duty is to optimize the production process. The initial task is to manufacture as much product as possible within a given period of time, optimized in three production circles. Their next task is the manufacturing of several products in parallel, with lean

approach, optimally fulfilling the customers' acute requirements. Finally, some industrial case studies will be discussed relevant to the production line.

The laboratory has multifarious AR/VR simulation components, in addition to the physical factory simulation training model:

- Location-based data access: content is displayed based on the position of the student related to what task should be executed. Such data can be labels, descriptions, videos, photos, and text. Information is directly accessible at the place where it can deliver the most added value to improve processes and save costs.
- Step-by-Step instructions: step-by-step instructions are showed according to the location-based task. Using augmented reality, one can make sure the right information is provided to perform the task in the best, safest, and most efficient way.
- Learning & on-boarding: location-based information, video, documents, and instructions are very helpful on the work floor for training new employees.
- Interactive scenes: industrial AR offers the capability to display complete interactive augmented reality scenes. For example, by object recognition and overlaying the AR-animation / model on the existing object like a machine, pump, or tool.
- Remote assistance: one-to-one calls between two students/participants with synchronized touch transmission, screen sharing, screen annotations, bidirectional transfer of audio/video and predefined animations in AR. Direct screen sharing improves understanding, prevents communication mistakes, and enables fast and accurate help when necessary.
- Internet of Things data: connecting available Internet of Things data to the industrial environment and displaying them, based on the participant's position. Industrial AR enables students to show real-time data by pointing the device at an object or anything else in the environment.

Users of the lab can have access to simulations and industrial robots that are not available in the traditional, classroom-based learning environment. These AR/VR data visualizations and simulations not only provide more efficient learning opportunities, but also facilitate the research and industrial activities of the lab:

- data visualization in AR environment.
- smart factory simulation (AR/VR) and impact assessment.

- digital twin simulation (AR).
- hyper connected workforce simulation (AR).
- virtual Industry 4.0 factory (VR).
- augmented workstations (AR).

Further to the above AR/VR solutions, the specific simulation software used by our collaborative partner is also available for training participants. In the background of the software, very strong mathematics is working on handling and optimizing simulations with industrial quantities (> 300,000). The software can be used in many other areas because of its 2D / 3D / VR display capabilities. The most popular areas of application are the simulation and analysis of flow processes in the field of production cells, production lines and plant halls. In these cases, the simulation is used for exploring the following:

- How many workers, machines, storage cells, etc. are required?
- Who is manufacturing what and when?
- In terms of layout, where is the best place for machines and workers?

The simulation is an event-driven simulation system, which examines discrete moments of events in linear chronological order that are relevant, for example, when a work piece arrives at or leaves a conveyor belt element. The operations performed in the lab can be extended via its digital twin to be implemented in the simulation software. Thus, all activities performed in physical and AR simulation environments can be expanded to a VR environment, supported by Artificial Intelligence. In the digital twin of the lab, the value stream can also be analysed. Out of the five fundamental steps in building a lean system, step no. 2 is to map the value creation process. The result of the activity is the value stream map, more specifically its so-called current state map version. For instance, prior to starting process development, it is worth summarising our goals in a so-called future state map. Further to these activities, the system provides the opportunity to simulate production scheduling, robotization, automatization, virtual commissioning and manufacturing ergonomics.

In the upcoming academic year, it is planned to develop the lab by incorporating product design opportunity in the AR / VR environment, data management solutions (such as data lake, data flow, data catalogue and efficient management of big data by Python programming language), and AR / VR supported and IoT based

blockchain platform, containing realistic synthetic data based on the simulation.

10.5 Teaching and Learning in the Smart Shop Floor Laboratory

The laboratory supports both applied research and applied education in the fields related to international business. The various tools in the lab can be used for international business programmes at any level: undergraduate, postgraduate, or executive programmes. The activities, materials and tools are all approved by both the corporate partners and the university.

Based on the experience of the pilot trainings and workshops, education via the laboratory is very effective in fostering the students' employability by preparing them for future jobs and supporting them in mastering the use of technologies in an industrial environment and developing their digital competences. The following hard skills can be developed effectively in the laboratory's learning environment:

- application of product tracking and positioning technologies (RFID, InfraRed Real Time Location System)
- use of sensors in logistics (XDK)
- use of relevant SAP modules
- use of Industry 4.0 integrated production lines
- understanding the smart factory concept
- developing a data-driven corporate concept
- creation of a purified data ecosystem by the business intelligence module: preparation of systems deploying big data generated during simulations, using modern data analyst and data scientist technologies, analysis, visualization, and creation of Machine Learning / Deep Learning based predictive models.
- application of AR / VR in logistics

According to the opinions of middle and senior managers involved in laboratory training, the following soft skills can be effectively developed in the laboratory:

- cooperation
- teamwork
- problem-solving skills
- divergent thinking

- problem sensitivity
- creating external motivation
- developing and maintaining internal motivation.

FIMB asks for continuous feedback on the technologies used in the laboratory and the teaching methodology from the university's corporate partners, thus ensuring quality and the highest possible level of compliance with current corporate expectations. This has led to a successful cooperation between academia and industry, and an efficient learning environment for international business students. Our experience supports the academic literature both in advocating the use of technology in international business education via labs, and also the proper training of faculty members involved in the use of the lab. The use of technology in international business education via labs is efficient in developing various skills and thus fostering the employability of students. Concerning the proper training of faculty members involved in the use of the lab, the technical part is of great importance: faculty members studied the various tools and methods both independently and in groups, consulted business practitioners and staff from other universities (mainly technical universities), and collaborated with our partner company in designing, developing, and piloting the various tools in the lab. However, during the discussions and pilot events, the use of real company data and solutions highlighted the need for training in another important area: academic export compliance.

10.6 Academic Export Compliance: The Need for Addressing a Special Risk Related to Using Technology in International Business Education

Universities as research and education institutions have featured open and collaborative environments for centuries. The cooperative character of a university’s activities is the solid fundamental and the essence of its functions. Today, as well as in the past, universities have involved foreign students and international scholars in academic life to generate both economic and scientific benefits, since the performance of non-domestic professors and students contributes to their success and fosters inventions.

However, international collaborations using technology have always raised concerns, because the participants coming from countries with varying levels of protection of intellectual property bring

a special difficulty. The potential risk losing control of an invention has permanently been present in the history, but it has significantly increased since the end of the 20th century due to the appearance of advanced information technology. As a result of these advancements, the sharing of knowledge has become more simple and easier on the one side, but the tracking of valuable and protectable data flow, the identification of final end-users and their true purposes have become more critical and even harder on the other side. It is not necessary to say that knowledge sharing with foreign citizens supports the technological development of their states, because the adaptation of innovations cuts the time and costs of research and development (R&D) activities, which promises immediate business advantages for enterprises and tax income for home countries. In addition, unauthorized utilization of R&D results also creates other indirect gains, causes unlawful enrichment, and can enhance generational advances in technology for the foreign countries or regions. Whereas the legally not permitted or acceptable use of inventions causes long-lasting reductions in the future tax income for the states, which promote and support the universities and provide the universities with resources (e.g., infrastructure) from tax payments.

The European Union, similarly, to other highly developed states (especially the United States of America), is cognizant of this peculiar conflict, and keen to find a sustainable and healthy balance between the tradition of openness in academia and the public interest of the EU in terms of public security and foreign trade policy. European universities must also realize that unlimited and uncontrolled knowledge and information sharing definitely means a threat to the position of the European Union and its Member States in the global economy, where enterprises, which are partners and sponsors of universities, fiercely compete in technological fields and face the probable loss of their valuable data assets. To create a balance between encouraging knowledge sharing, and the protection of valuable information, the developers' proprietary rights and the whole society's legal, safety and economic interests is a difficult and complex duty for governments and universities. To reach this important goal, universities need to be familiar with the phenomenon of export control.

10.7 Export Control: An Overview

The export (trade) control regime embraces the legislation on control, prohibition, restriction of critical items such as technologies, software,

data, information, goods, equipment, biological or chemical materials to foreign entities in foreign countries. The respective codes, regulations or presidential verdicts also cover the related services such as brokerage, shipment, logistics research and education of sensitive goods and technologies. They require the concerned companies and private persons (for example researchers and academic professors), to conduct themselves in strict compliance with the rules of foreign trade control if they deal with military or dual-used products or technologies. The aim of foreign trade control containing the export, import, deemed export and investment activities supervision and related risk mitigation, is to:

- protect public security and to avoid the arbitrary use of tangible and intangible assets of critical (strategic) importance and thereby to meet the obligations undertaken in international arrangement,
- mitigate the risks of loss or theft of intellectual properties,
- protect and strengthen the economy of states where these assets are developed and produced,
- reduce the global and regional threat of terrorism,
- prevent any slow-down or destruction of critical infrastructure or flow of data between industry and academy,
- avoid the flow of information to competitors that might endanger the investments and raise concerns in respect of states' legal, and economic interest.

The pivotal issue of these regulations is to clear up the purpose of end-use and to identify the true end-user. Academia is largely affected by export control: the restrictive measures of export control cover the activity, the interests, and the results of basic or applied research to different degrees. The approval or license-based development and transmission of military and semi-military technologies (e.g., nuclear or biological) or data is self-evident, since they generate knowledge which is subject to the foreign defence policy of states, defined by the international obligations undertaken in export control arrangements such as the Wassenaar Agreement.

However, the connectedness of research institutions and universities engaged in economics needs explanation. These institutions, which operate in finance, trade, HR management and logistics, or even in hospitality, are mainly addressed by the export control regulations if their academic activities and industry relations relate to the dual-use items. Dual-use goods or technologies are items that are developed to meet civil, commercial needs but can be used as

components in military systems or products. There are 1858 dual-use items on the EU Control List, classified in ten categories including chemicals, metals, mineral products, computers, electronic and optical products, electrical equipment, machinery, vehicles, and transport equipment. They typically fall into the scope of the high-technology industry but are of a mixed technical nature. EU statistics show the total export of dual-use items represents 3% of total exports and its export volume amounts to approx. 51 billion EUR.

Universities of applied sciences are mainly and typically engaged in the R&D of dual-use items (such as data processing with AI in logistics) and therefore they are exposed to the risks of infringement of export compliance rules. To illustrate the exposure of universities to the misuse of their academic research, a potential case elaborated by the European Union for Horizon 2020 project is worth a mention: "To improve airport security in Europe, a team of researchers conducts a series of vulnerability assessments to identify shortcomings in the security systems of certain airports. Their findings could help make airports less vulnerable to threats. However, if such findings end up in the wrong hands, they could be used to plan an attack on these particular airports." (European Commission, 2020)

The USA – as the first and most influential mover - framed the major constituents of concerned legislation, thereby it is useful to be familiar with the U.S. rules for the export of "technology, software, or technical data". The release of them for export both by companies and their collaborating universities might occur in various ways such as:

- "Visual inspection by a foreign national of U.S. origin equipment and facilities,
- Oral exchanges of information in the United States or abroad,
- Transfer or shipment via any means (physical or electronic) to a foreign entity,
- Provision of a service, or the application to situations abroad of personal knowledge or technical experience acquired in the United States." (Bureau of Industry and Security, 2020).

In this context the term of controlled export of knowledge or research result might include any:

- technical data, information, specification,
- drawings (descriptive, production or modification),
- software (operational, source code, algorithm),
- diagnostic test results or IT tools (AI, software),

- information or instruction on how to manage, operate or finance research and development.

10.8 Deemed Export and Academia

According to the Export Administration Regulation of the U.S. (EAR), any release of controlled technology or source code to a foreign person is a "deemed" export to the foreign person's most recent country of citizenship or permanent residency. (15. § CFR 734.13 (b)) except if they are "published". Examples of deemed exports can include:

- "allowing non-U.S. persons to view or access the controlled technology,
- sending an email containing controlled technology to a non-U.S. person,
- communicating controlled technology over the phone, for example in providing technical support or training." (Defence Council of Australia, 2020)

The information is regarded as published if the public can generally obtain it by sales in bookstores and newsstand or if they are available in libraries. (22. § CFR 120.11). The group of publicly available information includes the knowledge presented and shared by scientist and professors at conferences, fairs, commercial exhibitions and made available to the scientific public in journals etc. Furthermore, it also contains "public dissemination" (i.e. unlimited distribution) in any form (e.g. not necessarily in a published form), including posting on the Internet on sites available to the public; or the submission of a written composition, manuscript, presentation, computer-readable dataset, formula, imagery, algorithms, or some other representation of knowledge with the intention that such information will be made publicly available if accepted for publication or presentation to:

- domestic or foreign co-authors, editors, or reviewers of journals, magazines, newspapers or trade publications;
- researchers conducting fundamental research; or
- organizers of open conferences or other open gatherings. (15. § CFR 734.7)

If the sharing of information does not meet the criteria for public dissemination, it can fall into the scope of "deemed" export. Although the term "deemed export" is not defined by the European Union legislation, it cannot be disregarded because of strategic alliances with

the USA. Three questions arise in this context. The first concerns the freedom of academic life. It must be clarified whether the "deemed export" can impede the open society of universities. Secondly, the interest and the involvement of European institutions must be examined. Thirdly, in case of their affectedness the operation of the deemed export concept must be regulated in the daily university practice.

The first question is of high relevance, because any unlawful and unjustifiable limitation of the dissemination of research results would destroy both the freedom of science and contradict economic development, and thereby harm the public interest. If the results of fundamental research - either basic or applied - have been ordinarily published and shared, they are not restricted by to the export control rules.

To answer the second question, a specific term, the "U.S.-based" concept needs explanation. According to the currently effective U.S. regulation it means that "foreign-made commodities that incorporate controlled U.S.-origin commodities, foreign-made commodities that are 'bundled' with controlled U.S.-origin software, foreign-made software that is commingled with controlled U.S.-origin software, and foreign-made technology that is commingled with controlled U.S.-origin technology." (15 § CFR 734.3 (3). Due to this concept, the place of production has no relevance therefore anyone who wants to trade with the U.S. or use its technology must fully respect its continuously changing legislation. Regarding the power of global value chains, full respect must have been given to the export control rules of the U.S. in the strategic economic alliances of the USA, such as in the European Union, in Australia, Canada etc. Therefore, the European Union has set an export control regime of its own relating to military, semi-military, and dual-use products in conformity with U.S. legislation. The companies producing sensitive products by using, developing, or adapting US technology have already learnt these legal obstacles and implemented an export compliance system of their own in accountancy, procurement, sales and marketing, contract management, customer support, logistics, shipping, and research. Since it is almost impossible for any European high education user not to work with products of U.S. origin technology or software (such as Apple items, Microsoft, or IBM software etc.) they are indirectly involved. At that point, universities conducting joint research or operating laboratories together with firms, writing academic papers or delivering lectures in collaboration with enterprises are highly affected.

It holds especially true for universities which have collaborations with entities owned by U.S. parent companies or have strong relations with U.S. customers or institutions. In 2019, the European Union released a guidance on ethics self-assessment, which draws the attention of researchers of potential risks, presents some types of unconscious violations of the restrictions and describes the ethical view of this issue. (European Commission, 2019) Some European countries such as Germany have already started to prepare the academic sector to abide by these rules (Leopoldina, 2021). The non-compliance with export control can result in serious ethical, legal, and criminal consequences, not forgetting about the loss of the institution's reputation. Besides the professors, the students and the staff of universities must respect the export control rules, as well. The Massachusetts Institute of Technology (2019) figures, that export control covers the following activity fields and programs of higher education institutions: international travel and conferencing, international financial transaction, working with labs, teaching courses abroad or online, visiting of foreign scientist or professors, off-campus research, working with international staff and students. (MIT)

Thirdly, the right interpretation of these rules must be scrutinized. The proper understanding and execution are pivotal for universities, which plan, develop, and operate a laboratory with companies that are subject to export control. If they jointly create and build up an educational program thereon, the appropriate application of the export compliance requirements becomes a cardinal legal and ethical issue.

10.9 Export Control Rules Affecting the Lab at BBS FIMB

FIMB has been managing a cooperation with an international company for four years and has just started an applied research project with the company. In this situation, the information generated by the joint project must be classified as company-furnished and fundamental research. "Fundamental research is defined as basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls." (22. § CFR 120.11). The company-related data is protected by the intellectual property right of the firm and, to a certain extent, subject to export control. The university might be

required to enter into a non-disclosure agreement about this sensitive information, so the university staff must be familiar with respective export control rules of the EU (and Hungary) and the proprietary rights of the collaborating enterprise. It should be made possible that all "eligible" person participating in the project may receive information: they must be either citizens or permanent resident aliens. The university must avoid that the company-specific information or technology will be visually accessible to ineligible persons. However, it raises concerns in education and conflicts with the prohibition of discrimination among enrolled students and practice-based teaching methods. The investment of the laboratory was financed to encourage academic publications on the research activity. Besides the mutual interest and goal, there might be potential conflict with the industry partner because of the strict rules of dual-use regulation of the EU. The exposure to "deemed export" and the possible violation of company proprietary rights are compelling issues, and the university must be cognizant of the legal (civil and criminal) consequences in case of violation thereof. The solution for these problems is a comprehensive "University Guideline", which raises the awareness of export control issues, identifies the nature of information as early as possible in the research process, facilitates the assessment of critical points, and includes appropriate instructions and sample covenants.

10.10 Conclusions

It is broadly acknowledged that the academic environment represents the fundaments on which the European Union's future economic performance and welfare depends. The present students at European higher education institutions will be the future innovators and entrepreneurs, who will determine the advancements in business and science for decades. It is the reason why the European universities must provide a free and cooperative environment for innovations and at the same time must keep in mind both the security and technological competitiveness aspects. This chapter highlighted the importance of the use of technology, especially AR and VR in developing international business skills, but also that the use of technology should be regarded as a specific risk, and an important challenge to address by educators. Universities and colleges have an urgent need to learn the regulatory environment of export control to abide within its rules. There is a high demand for them to secure the ideas, and innovations from unlawful utilizations. Universities and colleges must realize the situations where

losses of tangible and intangible assets might be incurred. The European higher education institutions must be cognizant of the array of unfair techniques by which information can be illicitly obtained and misused to the detriment of developers and innovators. Besides copying, plagiarism, counterfeiting, piracy and the theft of scientific secrets, European higher education institutions also need to be aware of, and understand, how research processes work or learning the way in which achievements can be successfully managed and financed.

Universities and colleges need to identify three categories of information created by them to establish the harmony and balance between the protections of new ideas and free ways of thinking. The published information and software are assets which are freely accessible to the public with no restrictions on its further disseminations. Published information as final products of research activities generally receive protection through the laws of intellectual property rights, so their distribution is dependent on the university's decision. Whereas the interim results of basic or applied research must comply with the regulations of controlled technology, product, or service. Educational information is principally free and open to any qualified and enrolled students at the academic institutions, provided that the information does not violate the (future or present) proprietary right of third parties (such as companies in joint research projects). Higher education institutions active in the field of developing international business skills via labs are recommended to cover the above issues related to deemed export when training their faculty members.

References

AACSB (2020) Guiding principles and standards for business accreditation. https://www.aacsb.edu/-/media/aacsb/docs/accreditation/business/standards-and-tables/2020%20business%20accreditation%20standards.ashx?la=en&hash=E4B7D8348A6860B3AA9804567F02C68960281DA2

Acito, F., McDougall, P. M. and Smith, D. C. (2008). One hundred years of excellence in business education: What have we learned? Business Horizons, 51 (1), 5-12.

BBS (2021) BBS in a nutshell. https://uni-bge.hu/en/bbs-in-a-nutshell

Bower, M., Howe, C., McCredie, N., Robinson, A., and Grover, D. (2014). Augmented reality in education – cases, places and potentials. Educational Media International, 51 (1), 1-15.

Bureau of Industry and Security (2020) Deemed exports. https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear/14-policy-guidance/deemed-exports

CFR (Electronic Code of Federal Regulations) https://www.law.cornell.edu/cfr/text/15/734.3 ; https://www.law.cornell.edu/cfr/text/15/734.13 ; https://www.law.cornell.edu/cfr/text/22/120.11

Defence Council of Australia (2020) Australian Guide to Export Control and Best Practices Guide. https://www.aigroup.com.au

EFMD (2020) EQUIS - Standards & Criteria. https://www.efmdglobal.org/wp-content/uploads/EFMD_Global-EQUIS_Standards_and_Criteria-1.pdf

European Commission (2019) Guidance How to complete your ethics self-assessment. https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-self-assess_en.pdf

European Commission (2020) Guidance note — Potential misuse of research. https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-misuse_en.pdf

Fernandez, M. (2017). Augmented virtual reality: How to improve education systems. Higher Learning Research Communications, 7 (1), 1–15.

Gonzalez-Perez, M. A, Velez-Calle, A., Cathro, V., Caprar, D. V., and Taras, V. (2014). Virtual teams and international business teaching and learning: the case of the Global Enterprise Experience (GEE). Journal of Teaching in International Business, Paciber Special Issue, 25, 200-213.

Hawawini, G. (2005). The future of business schools. Journal of Management Development, 24 (9), 770-782.

Hernandez-Pozas, O., and Carreon-Flores, H. (2019) Teaching international business using virtual reality. Journal of Teaching in International Business, 30 (2), 196-212.

Hu-Au, E. and Lee, J.J. (2017). Virtual reality in education: a tool for learning in the experience age. International Journal of Innovation in Education, 4 (4), 215–226.

Johnson, J. E., and Jordan, M. L. (2019). The development of undergraduate international business practicums in small business schools: an experiential learning framework. Journal of Teaching in International Business, 30 (1), 6-32.

Jonathan, A. O. (2012). Influence of Information and Communication Technology (ICT) on business education programme in tertiary institutions. Knowledge Review, 26 (4), 41-48.

Kesten, C. A. and Lambrecht, J. (2010). Future directions for business education: a Delphi study. Delta Pi Epsilon Journal, 52 (2), 57-76.

Krishnamurthy, S. (2020). The future of business education: A commentary in the shadow of the Covid-19 pandemic. Journal of Business Research, 117, 1-5.

Lee, K. (2012). Augmented reality in education and training. TECHTRENDS 56, 13–21.

Lee, S. H., Sergueeva, K., Catangui, M., and Kandaurova, M. (2017). Assessing Google Cardboard virtual reality as a content delivery system in business classrooms. Journal of Education for Business, 92 (4), 153-160.

Leopoldina (2021) Informationen zu ausgewählten sicherheitsrelevanten Forschungsthemen und Fallbeispiele. https://www.leopoldina.org/ueber-uns/kooperationen/gemeinsamer-ausschuss-dual-use-2/dual-use-themen/

Martín, J., Fabiani, G. P., Benesova, W., Meneses, M. D., and Mora, C. E. (2015). Augmented reality to promote collaborative and autonomous learning in higher education. Computers in Human Behavior, 51, 752-761.

McFarlane, D. A. (2014). Contemporary barriers to excellence in business education. Journal of Business Studies Quarterly, 6 (2), 125-136.

McGovern, E., Moreira, G., and Luna-Nevarez, C. (2019). An application of virtual reality in education: Can this technology enhance the quality of students' learning experience? Journal of Education for Business, DOI: 10.1080/08832323.2019.1703096

Massachusetts Institute of Technology (2019) Export Control - Integrity and compliance. https://research.mit.edu/integrity-and-compliance/export-control

Nikitina, T., and Lapina, I. (2017). Overview of trends and developments in business education. Proceedings of the 21st World Multi-conference on Systemics, Cybernetics and Informatics (WMSCI 2017) http://www.iiis.org/CDs2017/CD2017Summer/papers/SA002IK.pdf

Panchenko, V., Haleta, Y., and Chernenko, O. (2020) Application of innovative smart technologies of virtual reality in business education as the basis of qualified professional preparation of future managers. Economics, Finance and Management Review, 1, 56-70.

Wang, W., Wang, F., Song, W. and Su, S. (2020) Application of Augmented Reality (AR) Technologies in inhouse Logistics. E3S Web of Conferences 145 https://doi.org/10.1051/e3sconf/202014502018

Wuttke, H-D., Henke, K., Ludwig, N. (2005) Remote labs versus virtual labs for teaching digital system design. Proceedings of the International Conference on Computer Systems and Technologies (CompSysTech 2005) https://www.researchgate.net/profile/Heinz-Dietrich-Wuttke/publication/228949675_Remote_labs_versus_virtual_labs_for_teaching_digital_system_design/links/0f31753ad85656b2de000000/Remote-labs-versus-virtual-labs-for-teaching-digital-system-design.pdf

11

Designing a Performance Measurement System Based on a Simplified Strategy Process – An Action Research Case Study

Björn Baltzer

11.1 Introduction

The case study presented in this chapter was performed at a German public university. When thinking about entrepreneurship, German public universities are typically not the first thing that come to one's mind, as the bachelor and consecutive master programs they offer are financed by the taxpayer. However, many German public universities also run lifelong learning units that charge tuition fees to their students, as the offerings of those units are not tax-funded. Lifelong learning units need to ensure at least cost coverage and are therefore run like small firms in a competitive environment.

The university in this case study has defined internationalization as one of its strategic goals, i.e. it aims to differentiate from other universities by internationalization in many different regards. Among other things, it offers various study programs both on bachelor and on master level fully taught in English language, it has a large worldwide network of partner universities for incoming and outgoing exchange students, and it aims to increase the number of foreign degree-seeking students. One of the pillars of this internationalization strategy is the master program presented in this case study, which is English-taught, focuses on doing business in today's globalized world and attracts a significant share of foreign students.

The corona pandemic has several significant adverse effects on this master program. First, one of the main ways to market the program is

unavailable for the time being, namely university fairs in presence, both domestic and abroad. Second, the visa process is delayed or even completely stopped in many countries, which is a big hindrance for admitted applicants to start their studies. Third, the majority of lectures needs to be delivered online. While this is true for all study programs, it affects this master program even more so, as one cornerstone of its teaching concept are group discussions in the classroom.

While the master program is not in a situation of acute crisis, it is well known that a profit crisis and consequently a liquidity crisis are typically preceded by a strategic crisis (Rüsen, 2017, p. 62). Therefore, the decision was made to design a performance measurement system (PMS) for this master program to ensure the fulfilment of its strategic goal .

11.2 Literature Review

Performance Measurement, Management Accounting & Control and Strategy

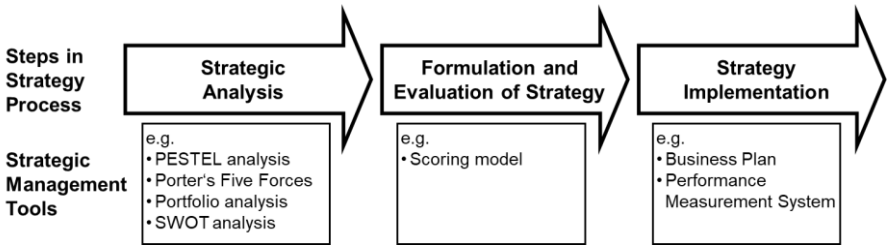
Ratios, metrics, figures, indicators etc. are used in abundance in all organizations. A PMS, in contrast, is a systematic arrangement of selected indicators that collectively reflect the high-level performance of the organization. Performance in this regards means the efficiency and effectiveness of the organization's activities (Neely, Gregory & Platts, 1995, p. 80). So a PMS is used by management to control to what degree the organization is "doing things right" (efficiency) as well as "doing the right things" (effectiveness; Drucker, 1963, p. 54).

PMS are consequently an important element of Management Accounting & Control Systems (MACS). In fact, PMS are the one topic covered most intensively in German MACS textbooks (Knauer, Nuss & Wömpener, 2012, p. 69). In the widely used framework by Simons (1995, p. 7), for example, PMS (called 'Critical Performance Variables' by Simons) are one of the four levers of control that are available to management. Typically, management accountants support management in designing and running PMS (ICV/IGC, 2013, p. 315).

Effectiveness as one of the two dimensions of performance puts the output or outcome of the organization's activities in relation to the goals that were set before. Goal setting takes place on a strategic as well as on an operational level. As PMS are used to reflect the high-level

performance of organizations, evaluating the fulfilment of strategic goals is more relevant for PMS. So from this perspective, "[t]he goals of performance measurement systems is to implement strategy" (Anthony & Govindarajan, 2007, p. 460). As a consequence, PMS are an important tool used in the implementation phase of the strategy process (Wolf & Oertmann, 2020, p. 1149; cf. Figure 11.1).

Figure 11.1 Strategy Process and Strategic Management Tools



The fact that PMS are discussed both as MACS tools and as strategic management tools can be exemplified with the Balanced Scorecard (BSC), one of the best known PMS frameworks. In their initial publication, Kaplan and Norton (1992) presented the BSC as a tool that added non-financial performance indicators to the financial performance indicators that were traditionally used in Management Accounting & Control. It was only later that Kaplan and Norton (1996) highlighted the benefits that the BSC offers to support strategy implementation, and they added the idea of the Strategy Map to the BSC concept for this purpose.

Performance Measurement in Universities

The discussion of Performance Measurement in universities already began at the end of the 1970s when Cameron (1978) started to publish a series of articles on Organizational Effectiveness. The topic attracted increasing attention from the early 1990s on when public institutions were transformed according to the New Public Management approach (Küpper, 2007, p. 82). This approach aims at introducing "the principles of economy, efficiency and effectiveness" (Seneviratne & Hoque, 2017, p. 439) to the public sector. So it does not come as a surprise that Seneviratne and Hoque note in their literature review of MACS in the public higher education sector that by far "the most

commonly occurring M[A]CS topic is performance measurement and management systems" (2017, p. 442). Especially for the BSC, there is a rich literature on its usage in the education sector (Kohlstock, 2009, p. 22). Drtina, Gilbert and Alon (2007) introduce the BSC specifically in a business school that offers MBA programs (see below).

Nevertheless, it needs to be stated that there is still considerable room for improvement when it comes to supporting the implementation of strategies by PMS (Vernau, 2014, p. 563) in universities. Specifically, for the BSC, Hladchenko (2015, p. 175) gives the following two main reasons why BSCs are not widely used by universities: first, a lack of experience and of necessary skills by university employees; second, the difficult and time-consuming development process of the BSC in universities.

11.3 Research Setting

Case Study

The single case study was performed in a public university of the type 'university of applied sciences', as opposed to the other main type 'research university'. The university was founded at the beginning of the 1970s, when universities of applied sciences were introduced in Germany. From a German perspective, it is a medium-sized university with around 10.000 students and roughly 40 undergraduate and graduate degree programs. Like most universities of applied sciences in Germany, it does not offer Ph.D. programs however.

Next to the faculties that are organized by academic disciplines, the university has established several years ago a lifelong learning unit. In this unit, all non-consecutive master programs, standardized training programs as well as tailored trainings are combined. Unlike the study programs offered by the faculties, all offerings by the lifelong learning unit need to ensure at least cost coverage and therefore come with tuition fees.

For the case study, a non-consecutive master program was chosen that confers the degree 'Master of Business Administration' (MBA). This study program was selected because it is the oldest non-consecutive program of the university and from a financial point of view, it is one of the two most important programs. The tuition fee is in the range of the German average for MBA programs of 17.000 € for the whole program duration (Wikipedia, 2021). The MBA program was

initiated about 20 years ago, it starts once a year and runs for 1,5 years. The MBA program provides a classic general management education on non-executive level, however with an explicit focus on doing business internationally.

Like all public universities, the university negotiates a target agreement on a revolving basis with the respective state ministry of science. In the current target agreement, the university commits itself to strengthen its reporting system in the two fields of International Affairs and Human Resources in order to improve strategic control. Even though the lifelong learning unit is not explicitly aimed at with this target, it was nevertheless an additional motivational factor for selecting this international MBA program for the PMS case study.

Action Research

For this research project, the action research (AR) method was deemed adequate. AR is a form of qualitative empirical research in the social sciences and goes back to the seminal work of Lewin in the 1940s (Lewin, 1946). A more general term, spanning various methods similar to AR, is interventionist research (Jönsson & Lukka, 2007, p. 376). Both names highlight one of the two peculiarities of AR. First, the goal of AR is not so much to purely describe organizational practice or to test theoretically-derived hypotheses in organizational practice, but rather to actively change the situation of the organization to the better. For this reason, AR is a very popular method in the field of Organization Development (French & Bell, 1999, p. 130). Second and somehow as a logical consequence, the researcher is not a neutral observer of organizational practice, but she is directly involved in the improvement process. This fact is not considered as a necessary evil of AR, but rather as an explicit "research asset [...]" (Jönsson & Lukka, 2007, p. 375). The degree of involvement by the researcher can vary from "modest" to "strong" (Jönsson & Lukka, 2007, p. 384).

While the AR method is sometimes recommended for Management Accounting & Control topics (Weber, 2007, p. 339), it is not very commonly used in Management Accounting & Control neither in Germany (Binder & Schäffer, 2005, p. 616), nor internationally (Jönsson & Lukka, 2007, p. 394) nor specifically when doing research in the higher education sector (Seneviratne & Hoque, 2017, p. 445). One example is presented by Harris and Ellul (2017) that used the AR method in a case study for implementing a BSC in a British University.

It is worth mentioning that the use of single case studies is quite common when using the AR method (Jönsson & Lukka, 2007, p. 373).

In the present case study, four members of the lifelong learning unit were part of the project team next to the researcher. Among them were the head of the lifelong learning unit and the employee mainly responsible for the administration of the MBA program. The AR method is suitable in case the organization wants to change, but the topic under scrutiny is novel to the organization (Arnaboldi & Azzone, 2004, p. 208), i.e. there is little experience and knowledge available in the organization. As mentioned by Hladchenko (see above), this situation often exists concerning the design of PMS in universities. As a consequence, at the very beginning of the project, the researcher asked the four team members in a closed question to rate their level of knowledge about PMS (cf. Table 11.1). The result of this inquiry was a strong confirmation to apply the AR method.

Table 11.1 Ex-ante Knowledge about PMS

Knowledge Level	*Frequency*	*Percent*
Very good	0	0
Reasonably good	1	25
Not so good	3	75
None	0	0

The second point mentioned by Hladchenko is the difficult and time-consuming development process of a PMS in universities. By switching perspectives, this can be interpreted as a lack of resources in the university that can be spent on the design of a PMS. While this was the main argument for testing a simplified strategy process (see below), it was also relevant for the composition of the project team. Even though the position of a central controller exists in the university that she was informed about the project, no participation in the project was possible for capacity reasons.

11.4 Research Process

Overview

In summer 2021, three interactive workshops took place with the team members and the researcher. In addition, the researcher asked the team members to complete several online questionnaires throughout the project.

The contents of each workshop were derived from the intra-organizational lifecycle model for Management Accounting & Control tools (Baltzer, 2013, p. 93), which uses a stage-gate logic.

In the first workshop, the project scope was discussed, expectations and concerns were identified and the role of the researcher in the AR method was explained. In addition, the researcher gave an introduction to PMS to bring the team members on a comparable level of knowledge. At the end, the decision to introduce a PMS for the MBA program was taken.

In the second workshop, the pros and cons of potential PMS frameworks were discussed. At the end, the preferred framework was chosen.

In the third workshop, the PMS was developed for the MBA program based on a simplified strategy process and at the end, it was considered to be ready for go live.

According to the lifecycle model, a fourth workshop is needed to evaluate the usage of the PMS and to decide about adjustments or even abandonment. As this is only possible after a reasonable time span, the fourth workshop did not take place yet, but is planned for summer 2022.

First Workshop: Is it Worthwhile to Design a PMS?

The starting point in the first workshop was to question the motivation for introducing a PMS in the lifelong learning unit of the university. So the team members were asked a closed question in a questionnaire before the workshop to rate the importance of introducing a PMS in the unit (cf. Table 11.2).

Table 11.2 Importance of PMS for Lifelong Learning Unit

Importance Level	*Frequency*	*Percent*
Very high	1	25
High	3	75
Rather low	0	0
None	0	0

While this was already a convincing result, another open question went into more detail and asked for specific reasons for the introduction of a PMS in the unit. The answers were analysed and

grouped based on the Abrahamson model (1991, p. 591) for the diffusion of innovations (cf. Table 11.3). In case an external coercive force (like the ministry of science) pushes the introduction of a new tool in the organization, this is called 'forced selection' by Abrahamson. If the organization wants to imitate other organizations, this is called 'fad' (imitated organization is in the same group, like other universities) or 'fashion' (imitated organization is not in the same group, like companies). Only if no coercive power is in play and imitation is not the driving force, then the introduction is based on 'efficient choice' according to Abrahamson.

Table 11.3 Reasons for Introduction of PMS

Reasons	*Frequency*
Efficient Choice	12
Forced Selection	0
Fad	0
Fashion	0

It was very comforting to find out that all answers that were given fell into the 'efficient choice' category. This means that the team members had convincing arguments for expecting a net benefit from the new PMS tool.

Table 11.4 Potential Implementation Barriers

Type of Implementation Barrier	*Frequency*
Individual Internal	1
Corporative Internal	0
External	5

When introducing a new tool, there is a plethora of reasons why the implementation might eventually fail. It is very important to identify such potential implementation barriers in an early phase to be able to take adequate counter-measures in time. Parvis-Trevisany and Schäffer (2006, p. 74) grouped the various reasons into three categories: individual internal barriers, corporative internal barriers and external barriers. Individual internal implementation barriers include misguided expectations, biases or a lack of knowledge by the members of the organization. Corporative internal implementation barriers include an organizational culture that does not fit to the assumptions and mechanisms of the new tool. External

implementation barriers include existing structures, tools and processes (like IT systems, incentive systems etc.) in the organization that are not in line with the new tool. In another open question, the team members were asked to anticipate potential implementation barriers (cf. Table 11.4).

While no corporative internal barrier was mentioned, a lack of knowledge was mentioned once as individual internal barrier. The five answers that fell into the external barriers category all relate to a lack of resources, namely a lack of available time (three answers) and a lack of required data (two answers). So altogether the answers exactly confirmed the statements by Hladchenko concerning problems of PMS in universities (see above). Another open question that followed up asked for expected main cost positions related to the introduction of a PMS system. Somehow consistent, the answers were labour cost (once), training cost (once) and cost for data acquisition (twice).

Given the convincing motivational situation to introduce the PMS and that no implementation barriers were considered to be show-stoppers, the decision was taken to move on. After an intense discussion, it was decided not to introduce the PMS for the overall lifelong learning unit in the first place, but to select one specific offering as a pilot project. The MBA program was chosen for the reasons mentioned above.

Second Workshop: Which PMS Framework to Choose?

To prepare for the second workshop, the researcher asked the team members to rate their knowledge about selected PMS frameworks (cf. Table 11.5). While a considerable number of PMS frameworks exists (Pun & White, 2005, p. 54), the researcher chose the BSC, Hoshin Kanri (HK) and Objectives & Key Results (OKR) due to their prominence in contemporary literature.

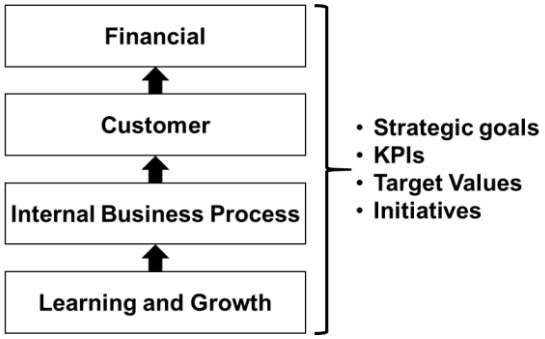
Table 11.5 Ex ante Knowledge about PMS Frameworks

Knowledge Level	*BSC*	*HK*	*OKR*
Very good	0	0	0
Reasonably good	4	0	2
Not so good	0	1	2
None	0	3	0

The result was a clear hint that the BSC was best known among the team members. Nevertheless, the researcher explained all three frameworks to the team members in the second workshop, and it was only after a lively discussion that the decision was taken in favour of the BSC. The main reason why HK was not chosen was because in the HK framework, 'breakthrough objectives' are defined. As the MBA program had undergone a significant revision recently due to a re-accreditation process, no such salient objectives were in sight. The main reason why OKR was not chosen was because OKR builds on an agile management approach. It does not come as a surprise that the university was not considered to be an agile organization. In favour of the BSC spoke not only the knowledge level of the team members, but also that fact that the BSC is the best known PMS framework and that it is already used by other universities (see above).

In a next step, the question was discussed whether the classic four perspectives of the BSC (Kaplan & Norton, 1996, p 76; cf. Figure 11.2) are suitable for the MBA program.

Figure 11.2 The Classic Perspectives of the BSC



It is not uncommon to rename perspectives and / or to add additional perspectives to the BSC, and this possibility was already mentioned by Kaplan and Norton (1997, p. 33) themselves. Especially when universities implement the BSC, they typically make changes to the classic four perspectives (Hladchenko, 2015, p. 170). Given the fact that the lifelong learning unit is run like a small business (see above), it was decided however to go ahead with the classic structure.

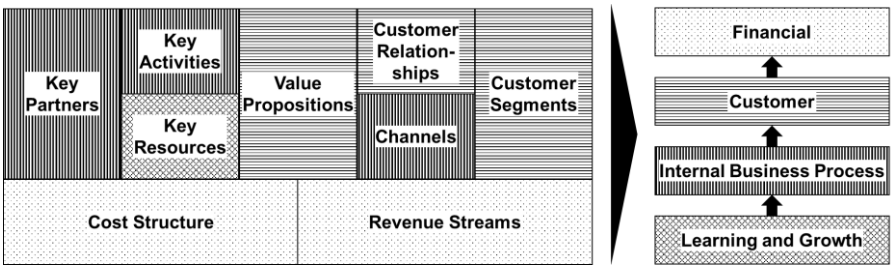
Finally, the researcher gave an overview of the steps to take in a traditional strategy process and the tools that can be used in those steps (cf. again Figure 11.1). As a lack of available time had already been

identified before as an important implementation barrier, the researcher was asked to come up with a simplified strategy process for the third Workshop.

Third Workshop: How to Develop the PMS Based on a Simplified Strategy Process?

In case the strategy of the MBA program was already explicitly formulated or at least implicitly known to all team members, it would have been possible to jump directly to the strategy implementation step and design the PMS. So the first question to clarify was whether a clear strategy for the MBA program exists. The team members were asked in an open question before the third workshop to explain their understanding of the strategy of the MBA program – if any. One team member answered that she is not aware of a strategy. Two other team members gave answers that were rather short mission statements than a strategy. Only one team member mentioned a number of plausible strategic goals in her answer.

Figure 11.3 Linking Business Model Canvas and Balanced Scorecard

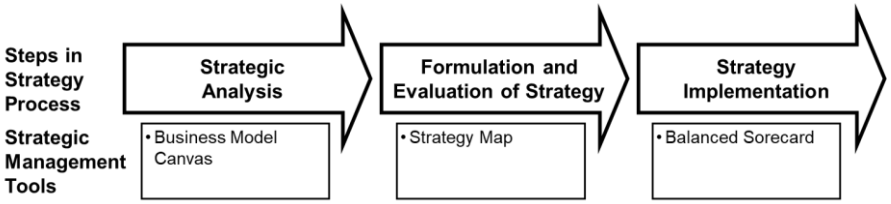


So overall, it became clear that all three steps of the strategy process (cf. again Figure 11.1) needed to be taken. However, as explained above, a simplified form of this process was requested by the project team. The researcher had identified an approach that was deemed appropriate, as it was also applied in a university setting recently (Agusty, 2020). In her approach, Agusty first described the business model and then developed a PMS on that basis. For the business model, Agusty used the Business Model Canvas (BMC) framework (Osterwalder & Pigneur, 2010, p. 7), and she used the BSC as performance measurement system. The beauty of this combination is that the nine components of

the BMC fit quite nicely to the four classic perspectives of the BSC (cf. Figure 12.3).

While the BMC can serve as a tool for strategic analysis, it does not directly help to formulate and evaluate a strategy. Therefore, an interim step needed to be added to the Agusty approach that enables the formulation and evaluation of a strategy. The Strategy Map, which is part of the overall BSC concept (see above), was identified to serve this purpose. So after analysing the business model with the BMC, strategic goals are formulated and tested for plausibility by visualizing them with a Strategy Map. Out of the Strategy Map, the final BSC can be derived in the last step. With the combination of the Business Model Canvas (strategic analysis), the Strategy Map (formulation and evaluation of strategy) and the Balanced Scorecard (strategy implementation), all three steps in the strategy process are covered in a simplified way (cf. Figure 11.4).

Figure 11.4 Simplified Strategy Process



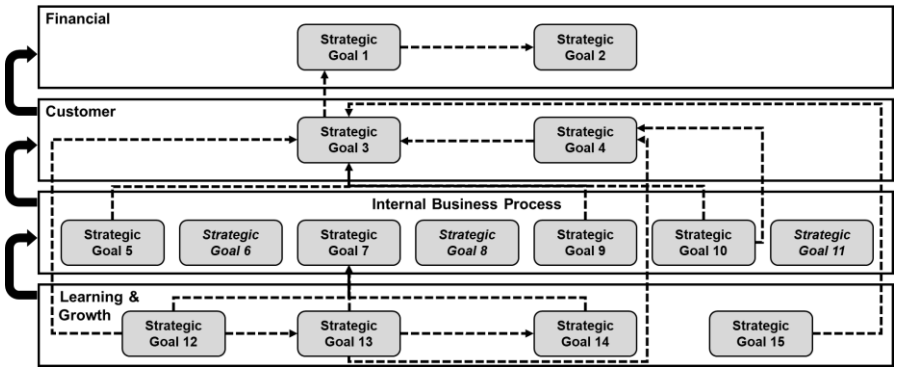
This approach was presented to and discussed with the team members in the third workshop. The approach was agreed on and was in the following executed for the MBA program.

In a first intense discussion, the MBA program was analysed and described by the nine components of the BMC. Already at this stage, several strategic issues were identified and mentally stored for the next discussion.

In the second discussion, altogether 15 strategic goals were identified for the MBA program. At this stage, the strategic goals formulated on university level as well as the current target agreements between the university and the ministry of science were taken into account. While some of the strategic goals related to single components of the BMC, other strategic goals related to two or even more components.

In the third discussion, the 15 strategic goals were placed in the Strategy Map and logical links between these goals were established (cf. Figure 11.5).

Figure 11.5 Strategy Map for MBA Program



As can be seen, only three strategic goals (goals 6, 8 and 11; marked in italics in Figure 11.5) were standing for themselves. Those goals all fall into the 'Internal Business Process' perspective and concern efficiency improvements of internal processes. Altogether, there was consensus that the visualization and evaluation of the strategy by means of the Strategy Map was not only helpful, but it also confirmed that the strategy for the MBA program was both comprehensive and consistent.

In the fourth discussion, key performance indicators (KPIs) were determined for each strategic goal to measure goal fulfilment. While for the majority of the goals, one KPI was deemed sufficient, two KPIs were defined for some goals. Also, for every KPI a desired target value was set.

The last step to complete the BSC (cf. again Figure 2) would have been to define initiatives for goal achievement, however this step was outside the scope of the project.

11.5 Discussion of Results

The Final PMS

The distribution of strategic goals and KPIs among the four perspectives of the BSC can be seen in Table 11.6.

Table 11.6 The Final Balanced Scorecard

Perspective	*Strategic Goals*	*KPIs*
Financial	2	3
Customer	2	2
Internal Business Process	7	9
Learning & Growth	4	5
Sum	15	19

The distribution of strategic goals turned out to be very similar to the case study by Agusty (2020, p. 841), where the BSC had 12 strategic goals with the majority of goals also in the 'internal business process' perspective.

With 19 KPIs, the 'Twenty is Plenty' recommendation (Kaplan & Norton, 2001, p. 330) is fulfilled. Also, the distribution of KPIs roughly follows the recommendation by Kaplan and Norton, who suggest that the majority of KPIs should fall into the 'internal business process' perspective. In the case study by Harris and Ellul (2017, p. 193) for a BSC in a British university, the number of KPIs was only slightly higher at 23. So from a structural perspective, the final BSC turned out to be 'standard'.

Table 11.7 Strategic Control over MBA Program

Control Level	*Frequency*	*Percent*
Very good	0	0
Reasonably good	4	100
Not so good	0	0
None	0	0

Feedback from the Team Members

After the last workshop, the team members were asked to fill a final questionnaire that included questions concerning two topics.

The first inquiry was to which degree the final BSC will allow to exert strategic control over the MBA program. As the results in Table 11.7 suggest, there is unanimity among the team members that good strategic control will be possible.

As the MBA program was selected as a pilot project for the lifelong learning unit, the process should be applicable to further offerings of the unit in the future. Indeed, a standardized training had already been

identified at the end of the third workshop for a follow-up project. So the second inquiry was to which degree the team members were satisfied with the overall process and whether adjustments need to be made.

Table 11.8 Satisfaction with Process

Satisfaction Level	*Frequency*	*Percent*
Very high	1	25
High	3	75
Rather low	0	0
None	0	0

According to the results in Table 11.8, the general satisfaction with the process was quite high. In a follow-up question, three team members stated that no changes to the process are necessary. One team member commented however that more time should be spent on the discussion of strategic goals and of KPIs.

Contemplation by the Action Researcher

As the action researcher is deeply involved in the project, it is important for the researcher at the end of the AR project to step back and reflect (Jönsson & Lukka, 2007, p. 390).

From a method perspective, the researcher received the feedback from the team members that his level of involvement was rather on the 'strong' side than on the 'modest' side (see above). So for further projects, the researcher will impose a self-containment in order to give more room to the team members.

From a content perspective, designing a Balanced Scorecard based on a simplified strategy process turned out to be feasible. Of course, an exhaustive strategy process is still to be preferred. But in a situation of limited resources, the simplified process presented in this case study can lead to fruitful results. In any case it is better than waiving to design a PMS. Also, it is in most cases more advisable to introduce a PMS in an organization in a top-down approach instead of starting at the bottom. But when the idea is to demonstrate a novel procedure to an organization, it can be a good idea to pick one straightforward item from the bottom level (in this case one specific study program) to start with.

References

Abrahamson, E. (1991). Managerial fads and fashions - the diffusion and rejection of innovations. Academy of Management Review, 16, 586-612.

Agusty, R.M. (2020). Designing Business Model Canvas Transforms into Balanced Scorecard in the XYZ University in Indonesia. Dinasti International Journal of Management Science, 1, 830-843.

Anthony, R.N. and Govindarayan, V. (12th ed. 2007). Management Control Systems, New York: McGraw-Hill.

Arnaboldi, M. and Azzone, G. (2004). Benchmarking University Activities – An Italian Case Study. Financial Accountability & Management, 20, 205-220.

Baltzer, B. (2013). Einsatz und Erfolg von Controlling-Instrumenten, Wiesbaden: Springer Gabler.

Binder, C. and Schäffer, U. (2005). Die Entwicklung des Controllings von 1970 bis 2003 im Spiegel von Publikationen in deutschsprachigen Zeitschriften. Die Betriebswirtschaft, 65, 603-626.

Cameron, K. (1978). Measuring Organizational Effectiveness in Institutions of Higher Education. Administrative Science Quarterly, 23, 604-632.

Drtina, R., Gilbert, J.P. and Alon, Ilan (2007). Using the Balanced Scorecard for Value Congruence in an MBA Educational Setting. SAM Advanced Management Journal, 72, 4-13.

Drucker, P.F. (1963). Managing for Business Effectiveness. Harvard Business Review, 41, 53-60.

French, W.L. and Bell, C.H. (6th ed. 1999). Organization Development, Upper Saddle River: Prentice-Hall.

IGC/ICV (2013). The essence of Controlling—the perspective of the Internationaler Controller Verein (ICV) and the International Group of Controlling (IGC). Journal of Management Control, 23, 311-317.

Harris, E. and Ellul, M. (2017). The role of strategic planning – a case study in UK higher education, In Harris, E. (Ed.), The Routledge Companion to Performance Management and Control (pp. 179-197), London: Taylor & Francis.

Hladchenko, M. (2015). Balanced Scorecard – a strategic management system of the higher education institution. International Journal of Educational Management, 29, 167-176.

Jönsson, S. and Lukka, K. (2007). There and Back Again – Doing Interventionist Research in Management Accounting. In Chapman, C.S., Hopwood, A.G. and Shields, M.D. (Eds.), Handbook of Management Accounting Research Vol. 1 (pp. 373-397). Oxford: Elsevier.

Kaplan, R.S. and Norton, D.P. (1992). The Balanced Scorecard – Measures that Drive Performance. Harvard Business Review, 70, 71-79.

Kaplan, R.S. and Norton, D.P. (1996). Using the Balanced Scorecard as a Strategic Management System. Harvard Business Review, 74, 75-85.

Kaplan, R.S. and Norton, D.P. (1997). Balanced Scorecard, Stuttgart: Schäffer-Poeschel.

Kaplan, R.S. and Norton, D.P. (2001). Die strategiefokussierte Organisation, Stuttgart: Schäffer-Poeschel.

Knauer. T., Nuss, A. and Wömpener, A. (2012). Der instrumentelle Kern des Controllings. Controller Magazin, 37, 67-72.

Kohlstock, B. (2009). Die Balanced Scorecard im Bildungskontext – Erfahrungs- und Literaturüberblick. Wissenschaftsmanagement, 3, 22-28.

Küpper, H.-U. (2007). Neue Entwicklungen im Hochschulcontrolling. Zeitschrift für Controlling & Management, 51, 82-90.

Lewin, K. (1946). Action Research and Minority Problems. Journal of Social Issues, 4, 34-46.

Neely, A., Gregory, M. and Platts, K. (1995). Performance measurement system design. International Journal of Operations & Production Management, 15, 80-116.

Osterwalder, A. and Pigneur, Y. (2010). Business Model Generation: A Handbook for Visionaries, Game Changers and Challengers, Hoboken: Wiley.

Parvis-Trevisany, N. and Schäffer, U. (2006). Barrieren im Prozeß der Implementierung von Controlling-Instrumenten. Zeitschrift für Controlling und Innovationsmanagement, 2, 69-78.

Pun, K.F. and White, A.S. (2005). A performance measurement paradigm for integrating strategy formulation - A review of systems and frameworks. International Journal of Management Reviews, 7, 49–71.

Rüsen T.A. (2nd ed. 2017). Krisen und Krisenmanage-ment in Familienunternehmen, Wiesbaden: Springer Gabler.

Seneviratne, C. and Hoque, Z. (2017). Management control systems research in the public higher education sector - Current status and future research agenda, In Harris, E. (Ed.), The Routledge Companion to Performance Management and Control (pp. 439-457), London: Taylor & Francis

Simons, R.L. (1995). Levers of Control, Boston: Harvard Business School Press Books.

Vernau, K. (2014). Herausforderungen des strategischen Controllings an Hochschulen. Controlling, 26, 556-564.

Weber, J. (2007).Theorie und Praxis im Controlling - Koexistenz oder Interaktion?. Zeitschrift für Controlling & Management, 51, 334-339.

Wikipedia (2021). Master of Business Administration. Retrieved August 10, 2021, from the website: https://de.wikipedia.org/wiki/Master_of_Business_Administration

Wolf, B. and Oertmann, J. (2020). Strategieinstrumente. Das Wirtschaftsstudium, 49, 1149-1151.

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