

E-Business as Catalyst for Global Transformation of SMEs: A Middle East Perspective

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Abstract – Small and medium enterprises (SMEs) are carriers of the economic development on local, regional, and national level. With high levels of flexibility, agility and adaptability, small and medium enterprises have the ability to transform and embrace new emerging technologies and opportunities. In the Industry 4.0 world, characterized by the intensive development and integration of digital solutions into all levels of operations, SMEs are among early adopters of such solutions. The purpose of the paper is to examine how small and medium enterprises in the Middle East are increasing their competitiveness, using innovative digital and e-business solutions as key transformative tools. Within the research, a systematic review of support ecosystem for development of the sector in the Middle East has been performed. Based on the systematic review and literature findings, the 5I framework, consisting of internationalization, innovation, integration, implementation, and intensifying, has been suggested as the model for transformative development of small and medium enterprises.

In the future research, it is possible to examine how fast-growing economies that create supportive environment for the development of small and medium enterprises, simultaneously recognizing digital and e-business solutions as important pillar of increasing competitiveness and innovativeness, might benefit from successful implementation of 5I framework for successful global transformation.

Keywords – SMEs, e-business, digital transformation, economic development, competitiveness.

1. Introduction

Small and medium enterprises are critically important pillars of the local, regional, and national economic development [1]. At the same time, small and medium enterprises (hereinafter: SMEs) actively contribute to the development of the national economies. According to the World Bank [2], formal SMEs contribute up to 60 percent of total employment and up to 40 percent of gross national income in the emerging economies.

From the local economic development perspective, SMEs are historically playing a critically important role in addressing poverty, inequality, and job creation in rural areas throughout the world [3]. In the past historical period, a certain level of dichotomy was noticeable regarding the geography of small and medium enterprises. Prior to Industry 4.0 period, urban and rural SMEs had different roles and developmental pathways. The digital era introduced the end of such dichotomic approach, with dispersion of SMEs throughout both urban and rural areas [4]. Nowadays, with proper institutional support system, SMEs are having power to effectively contribute to the development of local and regional economies, both as standalone enterprises and as part of the clusters [5], [6].

At the national level, regulatory mechanisms need to be developed to provide critical support for the development of the SMEs.

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Although transition economies needed to pass through the process of privatization, deregulation, and corporatization [7], creation of fostering entrepreneurial environment is perceived as a necessary developmental precondition [8]. Some economies in MEASA region (Middle East – Africa – South-East Asia), such as Malaysia or Egypt, heavily rely on SMEs that catalyze the economic growth of the entire country. Out of total business establishments in Malaysia, 98.5% are SMEs [9], whereas in Egypt SMEs played crucial role in the fast-growing economic development of the country [10]. In addition to traditional views of SMEs as economic catalysts, development of SMEs became embedded into considerations of political strategists [11].

Observed from the Middle Eastern perspective, SMEs became an important and innovative tool to boost the economic growth. Although development of SMEs is an important pillar for practically all the economies, it has different functions in different countries. In Egypt, the most populated country in the region of Middle East and North Africa, SMEs are carrier of the national economic development [10]. At the same time, in most of the Gulf states SMEs are considered as innovative tool to boost the economic development, like in case of Saudi Arabia [12]. This approach is logical, as the revenue of the Gulf countries is still highly dependent on petroleum products. Therefore, development of alternative solutions for sustainable economic growth is critically important at the current historical moment. At the same time, average contribution of SMEs to GDP of the Arab countries is still around 35% [13], what is significantly less than in case of the agile and transformative economies. Thus, the research question addressed in this paper is how small and medium enterprises in the Middle East are increasing their competitiveness, using innovative digital and e-business solutions as key transformative tools.

2. SMEs and Industry 4.0: Digitalization as Catalyst of the SME Development

SMEs are an integral part of the digital transformation process. Industry 4.0, as an ongoing revolution of manufacturing industry around the world, put a high bar in front of SMEs. The focus of Industry 4.0 is to establish a sound combination of production, information technologies, and the Internet.

According to a definition provided by the European Commission [14], [15], Industry 4.0 consists of numerous novel and innovative technologies:

- Information and communication technology (ICT) to digitize information and integrate systems at all stages of product creation and use, also including logistics and supply chain.
- Cyber-physical systems to monitor and control physical processes and systems by using ICT solutions. Cyber-physical systems (CPS) may involve embedded sensors, self-configuring intelligent robots, or 3D printing devices.
- Network communications, including wireless and internet technologies, that serve to link machines, work products, systems, and people externally and internally.
- Simulation, modeling, and virtualization in the design of products and the establishment of manufacturing processes.
- Big data analysis and exploitation, either on the spot, or through cloud computing.
- Digital assistance systems for human workers, including robots, augmented reality, and intelligent aid systems.

As in any industrial revolution, technology is one of the key determinants of future business environments. Unlike large corporations, SMEs are traditionally lacking human or financial capital to investigate risks and potentials of Industry 4.0 [14]. This limitation did not put burden on the SME development; the process even went in the opposite direction. Example of development of SME sector in European Union illustrates this paradigm. The European Commission established special support programs for SMEs to boost their innovation and development. The results of the support program indicated that “SMEs are not only adaptive and innovative in terms of their products, but also in terms of their manufacturing practices” [14, p. 5]. Numerous other research studies illustrated that Industry 4.0 fosters innovativeness of the SMEs. Different Industry 4.0 technologies play relevant roles in SME innovations, enabling quick transformation and development of plethora of innovative solutions [17], [18].

Despite financial, marketing, procedural and export challenges that are hindering development of SMEs in some Middle Eastern countries [13], the strong impact of Industry 4.0 on SME development in the region is also noticeable. Propulsive growth of SMEs in the region is in line with the pace of new technological development and supported by the states.

For example, UAE, as ranked number one in the Arab World by Global Innovation Index, has a positive attitude towards innovation. Such attitude is demonstrated not only through the existence of the innovation strategy that recognizes it as one of the pillars of social and economic development, but also through help the innovative SMEs in developing, promoting, and commercializing the innovations and improving global market accessibility [19]. As an outcome, UAE, unlike other Gulf Co-operation countries, has significant contribution of the SMEs to the total GDP. SME contribution to the overall national income is continuously growing, while SMEs are playing an important role in the development of the country [19], [20]. High level of innovativeness and competitiveness of SMEs in the United Arab Emirates is also characterized by the readiness of both SMEs and citizen to embrace new technologies and solutions that are important for resilience and survivability of small businesses, such as e-commerce [21], [22].

3. Methodology

In order to understand regulatory frameworks and developmental trends in the Gulf countries' SME sector, a document analysis of publicly available sources has been performed. Available content of the websites of the authorities from UAE, Saudi Arabia, Kuwait, Qatar, Oman, and Bahrain has been analyzed. Identified institutions and policies have been further examined to identify the scope of the intervention. Moreover, the role of the state institutions, bodies, authorities, and developmental support mechanisms in the transformation of SMEs in the respective countries has been examined within the document analysis.

Following the initial findings of the document analysis of available Governmental sources, detailed scrutiny of the available scientific literature related to transformation and role of the SMEs in the Middle East has been performed. Considerations mentioned in the scientific literature have been collected through Scopus database. The database search based on the review protocol with the keywords: "SME development" AND "Middle East" OR "UAE", "Saudi Arabia", "Bahrain", "Oman", "Kuwait", "Qatar" resulted in a total of 226 publications, out of which only 11 publications were dealing with the core topic of this research.

4. Findings

Enabling Growth: SME Regulatory Framework of the Gulf Countries

One of the characteristics of the SME environment in the Gulf countries is an existence of supportive ecosystem that enables proper support to the digital transformation of SMEs. In addition to numerous supportive measures that are visible in the UAE, Saudi Arabia, Bahrain [12], [13], [19], regulatory environment for functioning of SMEs is highly developed.

The existence of SME developmental funds and structured Governmental interventions in the context of transformation of SMEs provides boost to the entrepreneurial sector. Gulf states are creating competitive advantages through systematic investments in technology, innovation and IT, as conventional relationships between citizens, state and economy are renegotiated [23], [24]. The existence of proper regulatory framework and support institutions shows the long-term orientation of the Gulf countries to empower SMEs for an effective and successful transformation. An overview of a SME development support ecosystem in the Gulf Cooperation Council countries is shown in Table 1.

Table 1. SME development support ecosystem in the GCC countries

Country	Description
UAE	Federal Law No. 2 of 2014 categorized SMEs, established a dedicated council, and determined incentives offered to SMEs. Developed additional support system at the level of each of the emirates
Saudi Arabia	Small and Medium Enterprises General Authority (Monsha'at) established in 2016
Kuwait	The National Fund for SME Development ("the Fund") was launched in 2013, as an independent public corporation
Qatar	Enterprise Qatar support body established in 2011
Oman	Authority for SME development and SME development fund established in 2013
Bahrain	The first GCC country to support SMEs by setting up the Tamkeen body in 2006

The support ecosystem needs to create an enabling environment for effective transformation and growth of SMEs in the digital era. Objectives are defined in tangible and measurable manner: for example, Saudi Arabia Monsha`at has clear objective to increase contribution of SMEs to total GDP from 20% in 2016 to 35% in 2030 [25]. Similar to the case of Saudi Arabia, other Gulf countries also set clear objectives and priority areas for SME development.

Propulsive development catalyzed by Government support and fostered by the innovation-embracing environment is logical. Transformative power of digitalization increases the agility of all actors on the market, including SMEs, and this process is the loop: agility is at the same time consequence of digitalization, and a prerequisite for further digital development [26]. While Governments across the globe may consider investing into building the awareness of SMEs about digital capabilities and adopting digital technologies [27], Governments in the Gulf countries provide active support to these processes, simultaneously raising awareness of both SMEs and entire population about an importance of digital development.

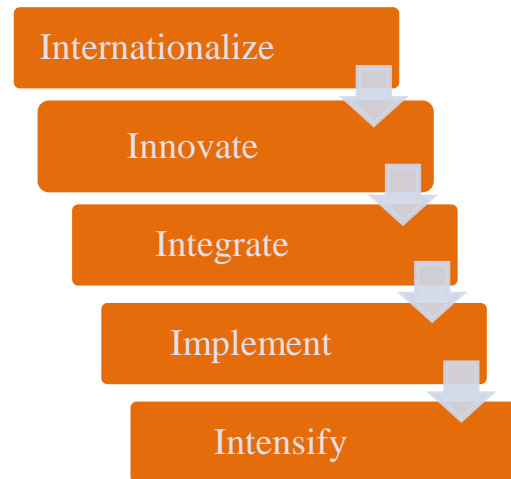
Agile, flexible, and adaptive SMEs thrive on the market [28], [29] and this fact did not change during COVID pandemics. Although COVID circumstances created strong market volatility, small and medium businesses with high agility, flexibility, and adaptability demonstrated resilience and continued their transformation under the new business reality. Small organizations played a heroic role in the world’s economy during COVID pandemic [29]. The importance of supporting and empowering the sector to continue both with the activities and the transformation has been recognized by the decision-makers in the Gulf countries. For example, UAE provided entire package of measures to support SMEs during COVID pandemic, additionally supporting SMEs by the establishment of post-COVID acceleration initiative in line with UAE’s strategy to support SMEs [30].

Moreover, e-business is perceived as an enabler for further development across the sectors. Knowing that digitalization is catalyst of the development of SMEs [31] and collaborative e-businesses are having superior effect on the performance of the companies in the Gulf region [32], application of e-business solutions can increase quality of products and services offered to the market by small and medium enterprises. With strong backing and support from the Governments, the growing trend of adoption of novel e-business products and solutions is expected to continue in the forthcoming period.

5. Discussion

SMEs in the Middle East: 5I Framework for Successful Transformation

Based on the review of available literature and official sources, the propulsive development of the SME sector in the Middle East might be described and characterized within the 5I framework – an integrative construct that includes the following aspects (Graph 1):



Graph 1. 5I framework of SME transformative development

Internationalization of SMEs in the Middle East is happening as part of regular growth process. This is the logical way to address the challenges of human capital, limited access to knowledge, and limited research and development capabilities. The ongoing globalization, moving along with the technological developments in the industry 4.0 era, has created a more favorable environment for the internationalization of SMEs by decline of trade barriers and communication costs [33]. The internationalization of SMEs has a significant positive impact on innovation performance [33] and therefore it is logically an incipient part of the transformative framework.

Implementation of the innovative solutions is critical for competitiveness of the SMEs at the broader scale. Thus, a dynamic small or medium enterprise can make a positive contribution to innovation, development, and employment [34]. The innovation ecosystem and support frameworks and institutions, created by Governments, can provide the incentives for small-scale entrepreneurs in the Gulf countries to become innovative. SMEs are recognizing this opportunity and are strongly encouraged to embrace or develop innovative solutions, especially digital.

Thus, development and further integration of innovative solutions into business operations of SMEs are natural steps in the transformative development.

Implementation of the innovations provides added value to the company itself, as well as to its end users. SMEs in the emerging market economies benefit from the innovation [35], and with the fast pace of the economic development these benefits become relevant for sustainable growth of the business. Innovations with high novelty, such as e-business or digital solutions, strongly increase the competitiveness of the SMEs. Thus, implementation of novel innovations to achieve full disruptive potential is highly recommended in the transformation of the SMEs towards high competitiveness [16], [36].

Continuous and intensive implementation of the innovations in the SMEs can boost the entire sector and can make it competitive at the level of the most developed countries. Thus, intensifying innovations is a logical next step in the transformation of the SMEs: enhancement of innovations in already innovative SMEs brings an added value to the competitiveness and operations [38], [39]. With the supportive ecosystem that exists in the Gulf countries, intensifying innovations leads to further investments into knowledge, research, and development. Such an approach is creating a sustainable framework for successful long-term transformation of the small and medium enterprises.

From the Middle East perspective, an empirical study could be performed to confirm full practical applicability of the designed framework. Observed from the global perspective, the concept of 5I framework for successful transformation of small and medium enterprises in the digital era needs to be further examined. Fast-growing economies that create supportive environment for the development of SMEs, simultaneously recognizing digital and e-business solutions as important pillar of increasing competitiveness and innovativeness, might benefit from successful implementation of such concept of the transformative development.

6. Conclusions

Transformation of SME sector and broad adoption of e-business solutions by SMEs is possible only through systemic and collaborative action that will include various actors, such as entrepreneurs, local and national Governments and authorities, research and development centers, and educational institutions.

Building necessary human capital, research and development, and institutional capabilities is the process with long-term strategic orientation.

Success of the Middle East SME transformation is strongly linked with political will to create the change and position SMEs as drivers of the development. Further to this, SMEs need support to develop and deploy innovative and imaginative solutions that can lead to full implementation of 5I model proposed in this article. Successful effort of Gulf Co-operation Council countries to build appropriate regulatory framework and support system might be a good example for the post-conflict countries integrated in similar forms of regional co-operations, such as Open Balkans countries: Republic of Serbia, Albania, and North Macedonia [40]. Such countries can increase their competitiveness and keep pace with the technological trends and developments [41], [16].

All the transformative actions with national impact need to have an additional support in the mindset change [37]. Understanding the nature, relevance, and importance of SMEs, as well as the need to support their development and embrace innovative e-business solutions need to be communicated across the citizen and residents. Both media and educational institutions are playing a critical role in this process.

This is the pathway to create sustainable change and ensure long-term and broad acceptance of the new development and new environment of small and medium enterprises.

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