

Entrepreneurial Rise in the Middle East and North Africa

ADVANCED STRATEGIES IN ENTREPRENEURSHIP, EDUCATION AND ECOLOGY

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Entrepreneurial Rise in the Middle East and North Africa: The Influence of Quadruple Helix on Technological Innovation

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Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2022

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-80071-518-9 (Print)

ISBN: 978-1-80071-517-2 (Online)

ISBN: 978-1-80071-519-6 (Epub)



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Foreword

Dima Jamali

It is a pleasure to write this Foreword for an important new volume on “The Entrepreneurial Rise and Technological Innovation in the Middle East and North Africa.” This book could not be more timely, as the Middle East and North Africa (MENA) region is on the verge of a potential entrepreneurship gold rush as per the most recent McKinsey report on the topic (Alkasmi, El Hamamsy, Houry, & Syed, 2018). An average of 94% of the MENA region population own a smart phone and 88% are connecting online on a daily basis (Alkasmi et al., 2018), yet some key digital sectors remain under-developed, and entrepreneurship potential remains largely untapped. For example, across MENA, only 8% of Small and Medium Enterprises (SMEs) have an online presence (10 times less than in the United States) and only 1.5% of MENA’s retail sales are online (5 times less than in the United States) (Elmasry, Barnickel, Dib, & Bansal, 2016). A study by Digital McKinsey showed that the Middle East has in fact realized only 8% of its overall digital potential, compared with 15% in Western Europe and 18% in the United States (Elmasry et al., 2016). However, the region has very good prospects as we look ahead given that it is experiencing a steady growth in both the number of successful start-ups and the amount of investment funding available to them (Alkasmi et al., 2018).

There is little doubt that entrepreneurship and innovation will significantly shape the future of the MENA region, and will have a multiplier effect on the economy. A recent research on economic recovery and revitalization in MENA suggests that for every 10 new successful enterprises, valuations increase to more than \$1.4 billion, opening up to 2,500 jobs opportunities (Endeavor Insight, 2016). Hence, the potential for scale up is immense and entrepreneurship constitutes a key engine for the economic transformation of this under-studied region, that is home to a population of more than 430 million people with an average GDP of USD 2.8 trillion (Alkasmi et al., 2018). MENA is projected to exhibit real GDP growth in the coming years, exceeding \$4.0 trillion in GDP value by 2025 (Dobbs et al., 2011). Also the largely youthful population of this region is likely to contribute to continued economic growth, and sustained and impactful entrepreneurial innovations. Approximately 60% of the overall MENA population is under the age of 30, while 30% falls within the 15–29 age bracket (United Nations Development Programme. Regional Bureau for Arab States, 2016). We expect these young people to fuel the rapid expansion of the digital sector in the

coming years and this most certainly bodes well for real digital transformation. Yet at the time of the compilation of this book volume the region has in fact realized less than 10% of its digital potential.

There are also important disparities that need to be addressed based on the **GEM 2017 MENA Regional Report**, which draws on data from the 2015 and 2016 GEM national surveys. For example, it is important to address the gap between intending and active entrepreneurs. The number of total early-stage entrepreneurs in the MENA region is 70% lower than the number expressing entrepreneurial intentions. Along the same lines, a recent survey has shown that more than half of MENA region adults believe in themselves to have the required skills, knowledge, and experience to start their own business and that expectations are increasing as far as entrepreneurship and employment are concerned (Bosma et al., 2020). Hence addressing the gap between intentions and materialization is certainly important. Additionally, it is important to provide a supportive ecosystem and to strengthen its different components across the value chain, given that the MENA region had the lowest rate of established entrepreneurs compared to other regions (6.8%) and a high rate of business discontinuance at 6.2% (GEM 2017 MENA Regional Report). As important if not more critical is the need to address gender disparity which is a persistent concern in this region. For example, women in the MENA region were only half as likely to be engaged in Total Entrepreneurial Activity (TEA) as their male counterparts, according to GEM 2017 MENA Regional Report. This is despite the fact that in six of the nine MENA countries surveyed, women entrepreneurs were more likely to be motivated by opportunity than men. This puts them on a par with female entrepreneurs in Europe and suggests that developing women entrepreneurs is a key priority for the MENA region going forward.

It is important to end this Foreword with relevant policy recommendations, some of which are aptly captured in this volume. There is a need on one hand to dedicate more attention to school level and university level entrepreneurship education (Ismail, Schott, Herrington, Kew, & de la vega, 2017). There is also a need for supportive and dynamic government policy focusing on creating a nurturing business environment for entrepreneurship that minimizes bureaucracy, taxes and market burdens or entry regulations (Alkasmi et al., 2018). There is also a need to for broader structural policies to provide financing and scale up investments to build an investment ecosystem that can accelerate the unlocking of the real potential of entrepreneurship in MENA. Up till now, the region has been shaped by mostly conventional business funding, and there is insufficient funding directed to support entrepreneurship, with venture capital (VC) worth only 0.03% of MENA GDP in 2018 (Makki & Rizk, 2019). This new volume edited by Stavros Sindakis and Sakshi Aggarwal makes an excellent contribution in this regard by examining emerging patterns, factors, triggers, catalysts, and accelerators to innovation, and their impact on future research, practice, and policy. As importantly this new volume touches on best practices to nurture innovation and entrepreneurship in this region, including the need for bolder entrepreneurship education and preparation across schools and academic institutions. The editors aptly point out that the coming of entrepreneurship age in the MENA region will hinge on the right enabling environment to support investor financing, growth,

and value creation. They suggest that to unlock the start-up system, both private and public investors must play an active role and take deliberate and concerted actions regarding investment scale, governance, and performance management in addition to networking and nurturing a growth mind-set. It is important to note in closing that the recent surge of Covid-19 and working from home has actually promoted a wave of innovation and new business start-ups (Sneader & Singhal, 2021) and the services offered by mobile technology generated 5.7% of GDP in MENA this past year alone, providing \$244 billion of economic value (GSMA, 2020). Hence despite all the challenges that are captured in this volume, there is hope for a brighter future, and there is no doubt that we need to channel more energy to support all facets of entrepreneurship and innovation in MENA, and this new volume compilation is likely to be a useful guide in this direction.

References

- Alkamsi, A. J., El Hamamsy, O., Khoury, L., & Syed, A. (2018). Entrepreneurship in the Middle East and North Africa: How investors can support and enable growth. *Digital McKinsey*.
- Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Levie, J., & Tarnawa, A. (2020). *Global Entrepreneurship Monitor 2019/2020 Global Report*. Retrieved from <https://www.c4e.org.cy/reports/2019/gem-2019-2020-global-report.pdf>
- Dobbs, R., Smit, S., Remes, J., Manyika, J., Roxburgh, C., & Restrepo, A. (2011). Urban world: Mapping the economic power of cities. *McKinsey Global Institute*, 46(March). Retrieved from <http://www.mendeley.com/research/urban-world-mapping-economic-power-cities/>
- Elmasry, T., Barnickel, N., Dib, H., & Bansal, A. (2016). Digital Middle East: Transforming the region into a leading digital economy. *Digital McKinsey*, 10(October), 1–66.
- Endeavor Insight. (2016). *Entrepreneurship in the Middle East: The time is now*. Entrepreneurship Ecosystem Insights. Retrieved from <http://www.ecosysteminsights.org/entrepreneurship-in-the-middle-east-the-time-is-now/>
- GSMA. (2020). The mobile economy MENA. *GSM Association*.
- Ismail, A., Schott, T., Herrington, M., Kew, P., & de la vega, I. (2017). Global entrepreneurship monitor founding and sponsoring. *Global Entrepreneurship Monitor (Gem), MENA Region Report*. Retrieved from <http://www.gemconsortium.org/download@file>
- Makki, M., & Rizk, M. (2019). Building (and boosting) an ecosystem. *Entrepreneur ME*. Retrieved from <https://www.strategyand.pwc.com/m1/en/articles/2019/building-and-boosting-an-ecosystem.html>
- Sneader, K., & Singhal, S. (2021). *The next normal arrives: Trends that will define 2021 – and beyond*. McKinsey. Retrieved from <https://www.mckinsey.com/featured-insights/leadership/the-next-normal-arrives-trends-that-will-define-2021-and-beyond>
- United Nations Development Programme. Regional Bureau for Arab States. (2016). *Arab Human Development Report 2016: Youth and the prospects for human development in a changing reality*. Retrieved from <http://www.arabstates.undp.org/content/dam/rbas/report/AHDR Reports/AHDR 2016/AHDR Final 2016/AHDR2016En.pdf>

Chapter 1

The Entrepreneurial Rise and Technological Innovation in the Middle East and North Africa

Stavros Sindakis and Sakshi Aggarwal

The Middle East and North Africa (MENA) is a distinct region, covering a large region extending from Morocco to Oman, including all Middle Eastern and Maghreb countries, a region synonymous with the Greater Middle East. The MENA region population is about 381 million people; the vast majority living in middle-income countries represents about 6% of the total world population. MENA is usually grouped by international, economic, and academic organizations, influenced by economic and political transformations, but with an inheritance for better growth. Therefore, it benefits from a privileged geographic location – access to large markets, such as a young and frequently educated population, and comparative advantages in different sectors such as tourism, manufacturing, and renewable energies. Also, MENA economies are implementing reforms to improve employment, economic growth, diversification, governance structures, private sector development, and integrity.

Entrepreneurship is an essential driver for economic growth and innovation. A report on the Middle East's economic recovery (2016) highlighted the impact of entrepreneurship's "multiplier effect" on an economy. The report also claimed that nearly \$1.5 billion in current valuations for every 10 successful new enterprises and more than 2,500 jobs are created for every 10 successful new enterprises. Furthermore, if we talk about the digital spaces, a generation of local MENA start-ups have emerged and gained a base throughout the value chains of various sectors, such as – e-commerce, logistics, digital music, last-mile delivery, and travel. All these illustrate the growth of local digital entrepreneurship. As a result, entrepreneurship (start-ups) in the MENA region plays a vital role in technological innovation affected by several factors, such as differences in strategies, economic structure, infrastructures, environments, and culture. Organizational capacities, regulatory practices, labor markets, and skilled workers, and economic

conditions that favor more technological growth, such as digital technology and information and communications technology (ICT), are all factors to consider. At the same time, such requirements do not yet occur in many other countries and sub-regions. Due to political and cultural factors, the likelihood of such conditions arising in the immediate future does not appear to be very high, given that some of the citizens' basic needs are not being met. As a result, developing educational systems is a critical requirement for preparing for a better future.

Overall, the ecosystem encouraging MENA's digital entrepreneurship potential has been falling into place, with growing demand, increased government enablement, bolder entrepreneurs, and generating VC firms. However, to unlock all its entrepreneurship potential, we discussed the six best practices that all public and private investors – including venture capitals (VCs), corporate venture capitals (CVCs), public entities, family offices, and so forth can adopt. We examined the start-up scene environments in the United Arab Emirates, Egypt, Oman, Jordan, Qatar, Algeria, Iran, Iraq, and Saudi Arabia, among others. We wish to touch on the government strategies that support the start-up communities, the local challenges, and each country's unique strengths. Several significant factors are impeding rapid progress. Population growth is relatively high in most MENA countries and sub-regions, necessitating increased infrastructure and technical investments and straining labor markets and education systems.

The MENA region's education and training systems remain a top priority, with entrepreneurship education being implemented in all educational institutions so that young people can learn the necessary skills to live independently. Even though the MENA region faces a range of challenges, including political instability, high unemployment, and weak economic conditions, the overall outlook for boosting entrepreneurial activity in the region appears to be optimistic.

Entrepreneurship education has gotten a lot of press lately, owing to an increasing interest in how academic institutions can meet entrepreneurs' needs. They are as follows:

Developing entrepreneurship and company skills: The value of developing entrepreneurial skills among students has received a lot of attention.

Universities' role: The value of universities in enhancing entrepreneurship education is highlighted in this report. According to several studies, universities play an important role in this field. Additionally, MENA universities can serve as entrepreneurial incubators to help their communities grow.

Education policies and curricula are being developed: Entrepreneurial success is influenced not only by business acumen but also by how well the educational system trains students to start businesses. Furthermore, we have discovered that entrepreneurship courses in a positive learning atmosphere increase students' entrepreneurial activities and intentions.

Contributions from researchers and practitioners in a wide variety of fields connected and related the relationships and inter-dependencies among (1) Innovation, (2) Political Regime, and (3) Economic and Social Development. We considered whether innovation is demonstrated differently across sectors (e.g., health, education, technology) and disciplines (e.g., social sciences, physical sciences), with an emphasis on discovering emerging patterns, factors, triggers,

catalysts, and accelerators to innovation, and their impact on future research, practice, and policy.

Thus, innovation involves new product creation, whereas innovation involves using the existing application with a creative approach to address the problems. The MENA region's overall image of technological developments is very complex and colorful. This is because, in many ways, the levels of development between and within most countries are incredibly disparate. Some of the disparities are also widening, such as between urban areas with adequate infrastructure and high dynamism on one side and the rural regions with weak infrastructure and slow technological growth. Factors including primary infrastructure delivery, and encouraging market culture, and supportive economic and education policies vary significantly across the country and its sub-regions.

This volume is organized into three thematic sections: Evolution of Entrepreneurial Activities in the Middle East and North Africa, Economic Development and New Business Creation, and Cultural Influence on Innovation and Information Infrastructure. These three themes portray diverse perspectives on entrepreneurship, innovation, technological advancement, economic development, and cultural influences in the MENA and beyond. The present book provides an exciting view about MENA's digital presence, demographic shifts toward a tech-savvy population, and the exponential evolution of technology, as digital consumption in the MENA region is growing exponentially. The coming of entrepreneurship age in the MENA region will hinge on the right enabling environment to support investor financing, growth, and value creation are essential. To unlock the start-up system, private and public investors must play an active role and deliberate and concerted actions regarding investment theses, networking, growth mindset, investment scale, governance, and performance management. The best practices offered in this book are just the beginning; also, they form an essential foundation for the future of investment in MENA entrepreneurship.

Thematic Section 1: Evolution of Entrepreneurial Activities in the Middle East and North Africa

Entrepreneurship in the MENA region is on the rise as a result of a thriving start-up ecosystem. The theme explores entrepreneurship activities and questions how technological advances occur and the strategic processes and institutions involved? The section introduces the Quadruple Helix model, which is defined as an approach for the future in Chapter 2. Today's economies are experiencing innovations that are different from technological development innovation, which is part of the industry and is performed by experts at various research institutions. Innovation has played a crucial in providing such new solutions to new and critical problems. Also, the innovation systems constitute environments in which both public and private organizations, governments, business communities, financing organizations, etc., collaborate to generate innovation through the interaction of knowledge, human resources, and institutions. Moreover, the Quadruple Helix model describes this new economic environment. This is explained with examples in several different MENA regions related to how government, universities, companies, civil society/community support innovation.

Chapter 3 discusses and concludes the entrepreneurship development in Qatar. The contributors concluded that entrepreneurship had become a significant priority for the Qatari government, as it is seen as the primary means of diversifying the country's economy. Since the 1990s, Qatar has seen a shift in policies related to the private sector, regulation, and the bureaucratic system to encourage entrepreneurship and achieve a sustainable developed economy. The new country's policies to promote entrepreneurship endeavors have been ranked third among all 54 participating economies as having the most supportive entrepreneurial framework conditions and first in the MENA zone. In Chapter 4, Entrepreneurship in the MENA region continues to be a significant research area with peace and institutions in the MENA. This chapter concludes that institutions are critical in deterring this type of operation by encouraging formalization and building an entrepreneurial environment that promotes peace-positive, socially oriented entrepreneurship. Institutional reform can present an opportunity for increased impact in influencing the organic entrepreneurial climate toward peace-positive orientations, with the humanitarian sector diverting considerable resources toward business-based livelihood programs.

Furthermore, Chapter 5 highlights the supportive Jordanian culture toward entrepreneurs and entrepreneurship. The Jordanian government had played a significant role in helping Jordanian entrepreneurs and Firms. Still, more work is needed, such as raising awareness about new business registration procedures, reducing bureaucracy, and empowering women in rural areas. Furthermore, Jordan's private sector and institutions play a significant role in fostering entrepreneurship by developing entrepreneurs' ability and offering an incubator climate. Moving forward, Chapter 6 concludes with the success rates and growth of youth entrepreneurship in the United Arab Emirates. The chapter indicated that self-realization, independent employment, and the opportunity for increased profits are among the most important driving factors for successful youth entrepreneurs. For a person who wants to bring their innovative concept to the market, education in entrepreneurship is a top priority. Educational institutions provide young entrepreneurs with a forum to refine their talents and foster innovation and teamwork through numerous team projects and activities. With the aid of guides, mentors, and advisors, they play a vital role in developing the requisite technical and communication skills.

Thematic Section 2: Economic Development and New Business Creation

This second section describes the economic development in the MENA region or any new business that has emerged or been established, especially in these times of COVID-19. Mainly, the question aroused is how new businesses are created? And to what extent is intellectual property protected? Besides, the section highlights the impact of the COVID pandemic on entrepreneurship, the opportunities, and the impacts on businesses in the region. Apart from the region's economic difficulties, employment and job growth are also a major concern, emphasizing youth unemployment. The Arab youth has indeed been "the highest, most skilled, and most urbanized in the history of the Arab region" for the previous five years.

Chapter 7 concludes with the economic development of past and current tourism trends in the United Arab Emirates. As a result, this research has opened up new avenues for academics to investigate and investigate factors that influence tourism promotion in the UAE as it is the fifth most popular tourist destination in the world. As a result, the Emirate aims to sustain tourists from developed countries while also attracting visitors from new nations, especially those with high potential for growth, such as China, by facilitating repeat visits. In reality, global interest in visiting the UAE as a tourist destination has nearly doubled. Governmental agencies have taken various measures to promote tourism and entrepreneurship, including the development of infrastructure and the introduction of tourism and entrepreneurship education. Therefore, the MENA region's education and training systems remain a top priority, with entrepreneurship education being implemented in all schools and universities so that young people can learn the necessary skills to start independent businesses. The chapters discovered that promoting unique training courses, including entrepreneurship education in curriculum content and fostering positive social attitudes toward entrepreneurs and entrepreneurship, is critical. Chapter 8 highlights using design thinking to accelerate progress toward the 2030 sustainable development goals in the MENA region. It shows that the Design Thinking approach is being used actively in the social development field and support and action from institutions and governments. Several great successes in design thinking to drive social developments that solve respondents also listed development problems.

On the other hand, using design thinking to accelerate progress toward the 2030 sustainable development goals in the region is also explained. The study suggests that a more comprehensive mapping of Design Thinking actors across the area is needed. There is also a strong need to link regional players involved in social innovation and Design Thinking so that information, expertise, and networks relevant to their work can be shared.

Chapter 9 explores the impact of the current pandemic (COVID-19) on entrepreneurship – examining the cases of Egypt, Saudi Arabia, and the United Arab Emirates. The chapter concludes that most entrepreneurs are positively and negatively affected by this case. Moreover, it produces new prospects and buries some. It is suggested that entrepreneurs should always be familiar with current practices and recent changes to come. Many firms were severely affected by the pandemic, from brick-and-mortar grocery stores to multinational businesses, and some have even been pushed into insolvency. However, we aimed to see the positive side: the crisis is among the primary motivations for innovation, as James G. March, an organizational theorist, has long pointed out. In Chapter 10, the author introduces the main aspects of financial technology and is devoted to raising awareness of FinTech in the MENA region. FinTech's influence is often perceived as a challenge to traditional banking, but this is far from the case, as cooperation between FinTech leaders and traditional financial institutions is critical for global economic development. The author also recognized that through empowering Green Finance, FinTech would help create a more sustainable future and support the achievement of the Sustainable Development Goals (SDGs).

Thematic Section 3: Cultural Influence on Innovation and Information Infrastructure

This section considers the importance of culture and its influence on innovation. The main question examined is which cultural characteristics serve to promote or impede innovation? In what ways is wealth distributed or concentrated? Specifically, the effects of national culture on employees' adoption of innovation in the workplace are examined. Also, it explores the main issues of Arab culture that adapt to innovation, a complex phenomenon that requires further efforts from managers for successful innovation performance. Therefore, the cultural influences on innovation in the region are expressed over times as cultural beliefs, whether in the form of norms or in the form of formal or informal values, which affect how people are involved in the innovation process and how they overcome the economic and technical barriers involved in the process. The section helps explore the cultural history of various cultures, improving and promoting economic innovation and competitiveness.

Chapter 11 examines the effects of national culture on the adaptation of employees to innovation in the workplace. The author of this chapter investigates that both organizational and individual cultures directly impact workplace innovation. The MENA states' broad power distance and high index of uncertainty, in general, are not conducive to innovation. This is because they are commonly associated with centralized decision-making and duties, rigid structures, and a lack of initiative. Chapter 12 explored the cultural influence on innovation in the MENA, concluding various cultures' cultural history, improving and promoting economic innovation and competitiveness. We also demonstrated how culture is shaped by innovation in education, patterns, and how the education system has developed, benefiting upcoming entrepreneurs in regions like Saudi Arabia, Egypt, Oman, the UAE, and Bahrain.

In Chapter 13, the author illustrates the scope of knowledge management operating through innovation networks and knowledge clusters accelerating value creation in the MENA region. Thus, the author concluded that the substantive and academic knowledge networks provide a solid framework for the knowledge management process. Improving these knowledge network foundations in MENA will usher in a new era of creative entrepreneurial capabilities. In Chapter 14, the author has looked at the analysis of Saudi Arabia's kingdom's national innovation system, concluding that KSA offers a cohesive innovation node. Build-up funding is a critical resource at this stage of innovation for bringing innovative products to the market. This stage is the most dangerous for most start-ups, and it is known as the "Death Valley," referring to the fact that many brilliant projects have collapsed due to a lack of funding. The policy action lines support Non-equity financing, but private equity funding is not commonly available. As a result, a significant amount of risk capital-based financing is absent from the scheme.

Finally, in our last chapter, we conclude what all the contributors explored and highlighted in their respective chapters. Thus, we recommend that the book will be beneficial for the upcoming students, entrepreneurs, and researchers interested in the concepts of the Quadruple Helix model of innovation, tech start-ups, and entrepreneurship rise in the MENA.

Section A

Evolution of Entrepreneurial Activities in the Middle East and North Africa

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