

The association between entrepreneurship, management, and sustainable development in the middle east: A systematic review and meta-analysis

Azzam Abou-Moghli^a and Ala Dandis^{a*}

^a*Applied Science Private University, Jordan*

CHRONICLE

Article history:

Received: December 12, 2020

Received in revised format:

December 29 2020

Accepted: February 28, 2021

Available online:

February 28, 2021

Keywords:

Entrepreneurship

Management

Meta-Analysis

Middle-East

Sustainable Development

Systematic Review

ABSTRACT

The study of entrepreneurship continues to expand as a field of inquiry and remains one of the most attractive realms of research in the field of management science. This study follows an evidence-based research approach and conducts a systematic review and meta-analysis on the entrepreneurship, management, and sustainable development in entrepreneurial firms working in the Middle East. The study has conducted a bibliometric search for outlining the systematic and empirical evidence on entrepreneurship, management, and sustainable development, and to examine the relevant literature from the particular domain, followed by PRISMA guidelines. Total of 25 articles were extracted dated from 2006 to 2020. One of the potential aspects regarding entrepreneurship, management, and sustainable development in the region was the introduction of entrepreneurial led family businesses that unlock the potential of the region. The rapid urbanization and population growth in the Middle East have put massive pressures on their environments. Entrepreneurship had a significant and positive impact on both sustainable development and management. Influenced by the entrepreneurial ecosystem, the Middle Eastern countries showed a dynamic performance at a macro level. This systematic review and meta-analysis provide information on the current state of the empirical entrepreneurship, management, and sustainable development literature.

© 2021 by the authors; licensee Growing Science, Canada

1. Introduction

Globally, the competitive environment is undergoing dramatic changes. Many small firms are pursuing to be globally competitive by venturing to enter the global arena or by partnering with large companies or smaller businesses (Ahmed and McQuaid, 2005). Cooperative relationships with larger multi-national enterprises are one way for small and medium-sized (SMEs) to expand their global competitiveness. Such developments enable small firms to reach global markets while enabling large firms for reducing costs through greater specialization. Entrepreneurship and its derivatives have impacted all businesses and levels of society, because it deals with innovation, productivity, wealth generation, job creation, and competitiveness (Fu et al., 2019). Previous studies claimed that entrepreneurship is majorly a phenomenon of industrialized, developed countries that can deal with the problems of underdevelopment (Rashid, 2019; Zehra, 2018). In recent years, entrepreneurship has been observed as an optimal aspect of global economic development. The correlation between economic growth, poverty, entrepreneurship, and sustainable development (SD) will be important for development, policy, and research in the coming years. Important roles are played by entrepreneurs and entrepreneurship in the global business environment (Sarango-Lalangui et al., 2018). There are still many different misconceptions and perceptions about entrepreneurship, although it has been an essential part of society for many years. Notably, it should be important to identify that much of the literature in the field of entrepreneurship is related to studies conducted in Europe and the USA, and, therefore, it is based on western cultures and values. The study of entrepreneurship continues to expand as a field of enquiry and remains one of the most attractive realms of research in the field of management sciences (Schwens et al., 2018). Encouraged by this increased attention, this study follows an evidence-based research approach and conducts a systematic review and meta-analysis on the entrepreneurship,

* Corresponding author.

E-mail address: a_dandis@asu.edu.jo (A. Dandis)

management, and sustainable development in entrepreneurial firms working in the Middle East (Frese et al., 2014; Pfeffer & Sutton, 2006). The main argument of this study is that worthy resources offer firms to pursue sustainable development strategies with greater efficiency (Chang & Rhee, 2011). This study follows the theoretical underpinnings of knowledge-based view (KBV) that competitive advantages are gained by knowledge that strategically represents the firm's most important resource and these advantages should be sustained as long as the management of a firm retains its value (Eisenhardt and Santos, 2002). In sustainable development, entrepreneurship is an influential aspect for SMEs to explore and exploit valuable knowledge globally as long as the broadcasting of knowledge can be ignored. Therefore, this study claims consistently with the KBV that differences in the sustainable development of SMEs rely on their heterogeneous management.

The association between sustainability, entrepreneurship, and management is understudied and scientists assume that sustainable entrepreneurship is a dynamic realm of research although the volume of accessible research in this domain has elevated dramatically over the last 30 years. Thereby, there is an apparent need for a systematic and well-established review, that will allow policymakers and professionals to make informed decisions and keep themselves updated with the advancement in this realm. The objective of this paper is to review the advances made in the recent literature and to outline how sustainable development affects entrepreneurial activities and management and vice versa using a systematic literature review. Additionally, it examines whether and under what conditions entrepreneurship can contribute to the environmental, social, and economic dimensions of sustainable development.

This study aims to make three contributions to existing research. In the first place, this study contributes to reducing the heterogeneity prevailing in entrepreneurship, management, and SD research by systematically defining and empirically reporting overall directions and magnitudes of the relationships between entrepreneurship, management, and sustainable development. In the second place, this study makes a contribution in the literature related to entrepreneurship, management, and sustainable development by systematically establishing and empirically validating the moderating influence of management on entrepreneurship and sustainable development in the context of SMEs working in the Middle East. However, the extant literature has qualitatively established the relationships between entrepreneurship, management, and SD (Ahmed and McQuaid, 2005) without accounting for quantitative synthesis. Finally, this study expands the extant knowledge by developing arguments for entrepreneurship, management, and sustainable development across Middle Eastern countries representing an important boundary condition for entrepreneurship and internationalization. The current study has quantitatively synthesized the management and sustainable development literature in entrepreneurship. This approach offers to take a compilation of the existing state of the empirical entrepreneurship, management, and SD literature and systematically provides directions for future research.

2. Methodology

The study has conducted a bibliometric search for outlining the systematic and empirical evidence on entrepreneurship, management, and sustainable development, and to examine the relevant literature of the particular domain. The study has followed PRISMA guidelines to extract relevant articles from different databases. This study has carried-out a computerized search using the following keywords: "entrepreneurship", "management", "sustainable development", "entrepreneur", "business", "technology", "production", "consumption", "environment", and "the Middle East" for identifying relevant articles. The search included the relevant literature published during the time from 2006 to 2020. This study has selected 2006 as the base year because the article by Mubarak et al. (2006) was the first to discuss the sustainable development and entrepreneurship in different Middle Eastern countries. Also, this study has carried-out an issue-by-issue search in entrepreneurship, management, and sustainable development journals. Moreover, this study has also searched from other disciplines that pay attention to the phenomenon of entrepreneurship. This study has excluded books, book chapters, case studies, review papers, and conference papers from the search strategy. Two authors have screened all articles extracted from the databases and excluded articles that did not include the Middle Eastern countries, and also the case studies, conceptual articles, and literature reviews, which did not focus on entrepreneurship, management, and SD. This study has included those articles that helped provide quantitative synthesis on entrepreneurship, management, and SD. The study has also excluded articles that did not include necessary statistics for computing a meta-analysis. The study has not included effect sizes concerning similar variables from more than one study when the studies drew on the same database. In these cases, the study has preferred the effect size from the study containing more knowledgeable content. In total, this study has extracted 25 articles that provided information on entrepreneurship, management, and SD (Fig. 1).

Publication bias can come from the evidence that positive outcomes are more likely to end up in scientific publications as compared to negative outcomes. Explaining the search strategy in the review protocol assisted in minimizing such risks. It was decided that the search strategy of review protocol would address the maximum number of publications possible to enhance the quality of the identified primary studies. The current study uses the most known databases. Titles and abstracts were read with additional emphasis to ensure that only applicable studies would be considered in the review. There is also a possible threat to the validity of the review at the stage of data extraction. Data extraction form was used for minimizing the data extraction bias in this review protocol.

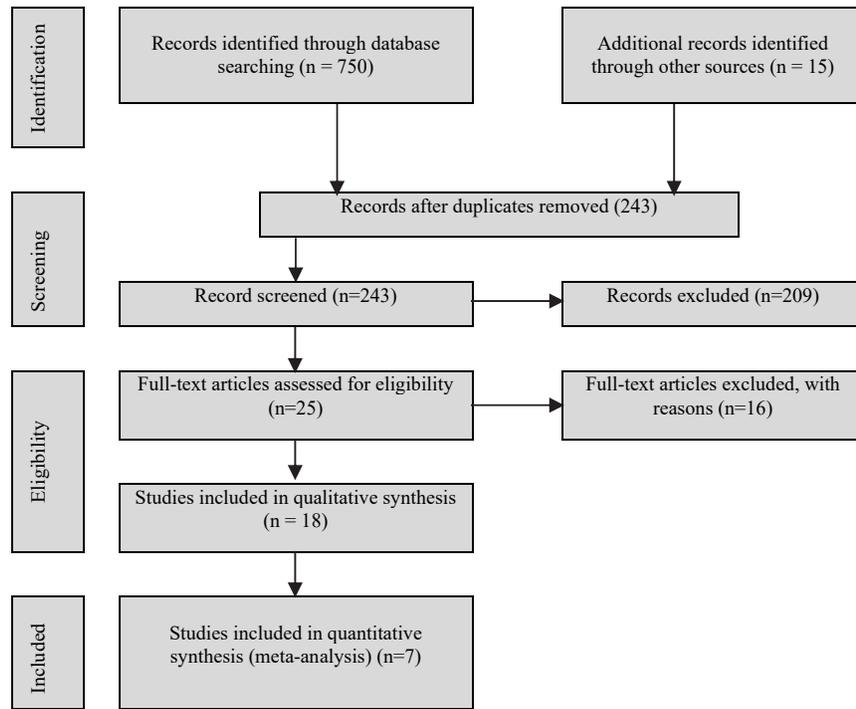


Fig. 1. The structure of the survey

3. Results

3.1 Study Characteristics

Out of 25 studies, 18 studies (Abdou et al, 2010; Dhillon et al., 2009a; Dhillon et al., 2009b; Caputo et al., 2016; Kargwell, 2012; Zamberi Ahmad, 2011; Ahmad & Xavier, 2011; Pistruì & Fahed-Sreih, 2010; Subeh & Al-Rawashdeh, 2012; Al Marashi, 2010; Shehadi et al., 2013; Issa & Al Abbar, 2015; Movahedi & Yaghoubi-Farani, 2012; Alheet, 2019; Vahidnia et al., 2019; Liu et al., 2020; Kemppainen, 2019; Megheirkouni et al., 2020) were used in systematic review analysis while 7 studies (Jabeen & Faisal, 2018; Elali & Al-Yacoub, 2016; Davari & Najmabadi, 2018; Bakar et al., 2016; Naushad et al., 2018; D'Souza & Taghian, 2018; Abu Bakar et al., 2017) were used for meta-analysis outcomes. The list of journals used in this review is given in Table 1.

Table 1
Journals of Selected Studies

Journal	Year	Author
Gender in Management: An International Journal	2016	Jabeen & Faisal
World Journal of Entrepreneurship, Management and Sustainable Development,	2016	Elali & Al-Yacoub
Journal of Entrepreneurship in Emerging Economies	2017	Abu Bakar et al.
Springer	2018	Davari & Najmabadi
Middle-East Journal of Scientific Research	2016	Bakar et al.
Entrepreneurship and Sustainability Issues, Entrepreneurship and Sustainability Center	2018	Naushad et al.
Wolfensohn center for development	2010	Abdou et al.
International Journal of Entrepreneurship and Small Business	2016	Caputo et al.
	2011	Ahmad & Xavier
International journal of business and social science	2012	Kargwell
International journal of gender and entrepreneurship	2011	Zamberi Ahmad
International Journal of Entrepreneurship and Innovation Management	2010	Pistruì & Fahed-Sreih,
Journal of Economics and Sustainable Development	2012	Subeh & Al-Rawashdeh
Global Urban Development	2010	Al Marashi
Booz and Company	2013	Shehadi
International Journal of Sustainable Building Technology and Urban Development	2015	Issa & Al Abbar
Entrepreneurship and Sustainability Issues	2019	Alheet
International Journal of Gender and Entrepreneurship	2019	Kemppainen
Journal of Ethnic and Migration Studies	2020	Liu et al
Gender in Management: An International Journal	2020	Megheirkouni, Thirlwall and Mejheirkouni
Journal of Business Venturing Insights	2019	Vahidnia et al

3.2 *Entrepreneurship, Management, and Sustainable Development in Middle East*

In the Middle East, social firms are being innovative and active in varied industries and sectors. A majority of the current social firms are involved in human capital development. The focus of social enterprises is to foster the group of leaders with the skills and experiences required to improve the global competitiveness of the region while also accomplishing social goals. In general, the emphasis is directed towards an increasingly essential role and the tendency for social entrepreneurship and similar activities. These involve the escalating interest in young adults to gain social influence and sustainable development. According to the insights of Dhillon et al., (2009), the Middle East is experiencing compelling and unique issues, which are not experienced by other regions. Increasing population is imposing pressure on the existing sustainability issues and expanded resources. In addition, the growing youth unemployment and under-employment is another important issue caused by the lack of sustainability and entrepreneurship. Similarly, Dhillon, et al. (2009) have opined that no significant increase was observed in terms of youth opportunities and equitable development despite high levels of economic growth in the region. The safety measures provided by the governments in the Middle East are under extreme stress even though they have conventionally taken a core responsibility of human capital development, job creation, economic development, and provision of social services to their citizens (Dhillon, et al, 2009). For example, the competence to provide healthcare and sanitation, fully subsidized education, and similar services are now becoming limited (Abdou et al., 2010). The Middle East is traditionally considered as a fundamentally hostile environment for women in terms of non-conventional responsibilities. However, the strength of this conventional observation can be changed across different countries in this region. For instance, new standards of support for women in business ventures have been developed by the United Arab Emirates (UAE) as it makes efforts to involve all its citizens in the social and economic growth of the country. Therefore, there is a greater need to support organizations that can develop opportunities for women entrepreneurs in patriarchal societies and developing countries (Ahmad & Xavier, 2011; Movahedi & Yaghoubi-Farani, 2012) such as the Middle East. In particular, no evidence has been witnessed regarding a mapping process of such initiatives. Observations from previous studies have suggested different strategies through which encouraging support can be delivered for the implementation of legal reforms to address discriminatory practices and laws; enhance credit conditions for women entrepreneurs by providing them access to finance; stimulate entrepreneurial and small business strategies by mitigating policies and regulatory outcomes; encourage women entrepreneurs via training programs and enhance the functioning of women's business networking and associations (Ahmad & Xavier, 2011). Concerning these aforementioned points, previous studies have been interested in those aspects that actively encourage entrepreneurship as compared to those that promote a policy change. In fact, perceived lack of business experience and skills for executing business is one of the observed barriers to entrepreneurship (Kargwell, 2012).

One of the potential aspects regarding entrepreneurship, management, and sustainable development in the region was the introduction of entrepreneurial led family businesses that unlock the potential of the region. This policy entails a focus on long-term investment strategies and relationships (Caputo et al., 2016). They are also keen on taking interest in their staff members and tend to be community-oriented for philanthropic reasons. Unique loyalties and traditions are created by family firms that can both foster and prevent change and development. Therefore, studies have recommended the governments and service providers in the Middle East to focus on the needs of family business development and entrepreneurship considering the existing opportunities and challenges in the region (Subeh & Al-Rawashdeh, 2012). With the emergence of entrepreneurship and entrepreneurial activities in the developing economies, numerous studies have been conducted to understand its dynamics (Alheet, 2019; Vahidnia et al., 2019). However, universities and educational institutions were also considering its importance and paying significant attention to entrepreneurship in recent times (Liu et al., 2020; Kempainen, 2019). Though organizations were also taking entrepreneurship as a serious discussion topic and putting these perspectives as an important area for industry-academia linkage, (Megheirkouni, Thirlwall and Mejheirkouni, 2020) and recent literature showed that entrepreneurship and entrepreneurial activities were analyzed and investigated largely (Megheirkouni, Thirlwall and Mejheirkouni, 2020), still, there is serious need to examine an effective pathway towards entrepreneurial intentions to push startups and emergence of talent from the grass-root stage. Whereas, the role of social media networks should also be taken into serious consideration as it cannot be neglected (Liu et al., 2020). Vahidnia et al. (2019) studied that while entering into the business market, how firms face competition and how they implement strategies to deal with it using their performance. Various competitive strategies that influenced a firm's performance have been studied. The pioneer firms, as well as their followers, have been examined which led to the conclusion that their sustainable strategies are different from one another and they innovate them with time. Quality, price, and efficiency of the mobile industry have been considered as variables. The study has concluded that pioneers who are using hybrid strategies are more successful and they maintain their cost by delivering quality services and by charging customers more but sometimes their pricing system deteriorates with time if they do not incorporate sustainable strategies. Indeed, the rapid urbanization and population growth in the Middle East has placed massive pressures on their environments. Several cities in this region are still without appropriate urban expansion strategies, while a few cities have implemented urban management policies to reduce or alleviate these pressures including Doha, Damascus, Dubai, Manama, and Baghdad (Shehadi et al., 2013). Expansive and discontinuous urban development and higher land consumption will be a part of these cities. Therefore, local planners and authorities should look into the likelihoods to implement sustainable development or growth management strategies for their cities (Al Marashi, 2010). Urban growth or development is a huge concern for public officials, environmental advocates, planners, and policymakers in the UAE. The UAE has shown growth and development, being an oil-based rich country. The country scores high on development indices due to high per capita income, robust social development, and unprecedented economic growth even though it does not have

rich reservoirs of other natural resources. The UAE has been considered as a hub of commerce, peace, stability, and security regarding all other economies in the Middle East.

Recently, the Middle Eastern companies have incorporated sustainable practices throughout their management and operation systems as part of their corporate social responsibility (CSR). Initiatives for energy conservation, water conservation, stakeholder and community engagement, and green procurement, have emerged, which drives sustainability throughout organizations from the perspective of corporate governance (Issa & Al Abbar, 2015). Several companies in the region have succeeded in incorporating sustainability throughout their CSR initiatives. For example, Emirates Transport was announced as the winner for having a CSR initiative that involves community engagement, occupational health and safety, social responsibility, and eco-friendly services. Qatargas has a strong CSR initiative that implements health and safety, community development, environment, and education (Movahedi & Yaghoubi-Farani, 2012).

3.3 Meta-Analysis Findings

The study has first evaluated the main effects of entrepreneurship on sustainable development and management dimensions (Table 2) based on a random-effects approach. Overall, entrepreneurship had a significant and positive impact on both sustainable development and management. Competitive advantage, social networks, and simplification of procedures are the best predictors of sustainable development when interacted with entrepreneurship. Table 2 further indicates significant heterogeneity in effect sizes, which implies that correlations differ based on the studies and their potential moderators indicating these differences might exist.

Table 2

Effects of Entrepreneurship on Sustainable Development and Management (Regression Outcomes)

Variables	Coefficient	p-value	95% CI
Dependent: Sustainable Development			
Competitive advantage	0.813	<0.000	0.05 to 0.15
Social networks	0.943	<0.000	0.03 to 0.15
Government support	0.667	<0.000	0.07 to 0.21
Special finance schemes	0.683	<0.000	-0.01 to 0.19
Simplification of procedures	0.777	<0.000	0.07 to 0.15
Dependent: Management			
Management skills development	0.754	0.017	0.03 to 0.15
Professional networking	0.676	0.013	0.07 to 0.21
Competent staff	0.863	0.001	0.08 to 0.18
Education and training	0.583	0.001	0.09 to 0.25

3.4 Robustness Tests

The study has conducted additional meta-analytical regression analyses to account for possible effects of particular omitted variables.

Table 3

Robustness Test: Meta-Analytic Regression Analyses with Dummies

Variables	β	Std. Err	p
Sustainable Development			
Environmentally Friendly Products	0.794	0.063	<0.000
Recovering resources	0.745	0.063	<0.000
Employees training	0.643	0.063	0.041
Direct stakeholders	0.709	0.063	0.056
Indirect stakeholders	0.731	0.063	0.010
Purchasing and Procurement	0.721	0.063	0.638
Management			
Finance	0.541	0.791	<0.000
Market	0.623	0.986	<0.000
Support	0.596	0.913	<0.000
Infrastructure	0.661	0.110	<0.000
Culture	0.551	0.813	<0.000
Human capital	0.541	0.919	<0.000
Entrepreneurship			
Age	0.000	0.000	0.367
Income	0.739	0.407	0.070
Occupation	0.702	0.527	0.183
High social status	-0.676	0.269	0.060
Future opportunities	0.008	0.359	0.014
Entrepreneur skills	0.100	0.267	0.000
Gender	1.176	0.224	0.245
Education	0.419	0.315	0.001

This study has particularly implemented a series of dummy variables for entrepreneurship, sustainable development, and management in meta-analytical regression analysis. Regarding entrepreneurship, the study has considered age, income, occupation, high social status, future opportunities, entrepreneur skills, gender, and education as dummy variables. For sustainable development, environmentally friendly products, recovering resources, employees training, direct stakeholders, and indirect stakeholders were considered as dummy variables. For management, finance, market, support, infrastructure, culture, and human capital were considered as dummy variables (Table 3). From the findings, there was no sufficient evidence to show that education and gender moderate the independent variables towards entrepreneurship in the Middle East. The probability of the entrepreneur to start a business is positively influenced by income. High social status positively and significantly influences the entrepreneurship of a respondent (Table 3). Regarding sustainable development, environmentally friendly products, recovering resources, employees training, direct stakeholders, and indirect stakeholders significantly and positively moderated sustainable development. All the dummy variables (finance, market, support, infrastructure, culture, and human capital) moderated the management based on regression analysis.

4. Discussion

The meta-analysis used in this study offers valuable findings that are of strategic importance to improve the entrepreneurial behavior of employees and managers in the Middle East. Government support and social networks are amongst the sublime enablers, which were also proven from the regression outcomes shown in Table 2. Exclusive and explicit government support programs are required for motivating Middle Eastern entrepreneurs. The government should take positive approaches including supporting banks for simplifying tax procedures and providing easy credit. It should further identify the success of women in their entrepreneurial efforts with appreciation and positive acknowledgement based on financial and non-financial rewards (Modarresi et al., 2016). The findings of meta-analysis revealed that financial schemes are an essential enabler as entrepreneurs tend to be cautious and risk-averse regarding conventional bank financing due to its high costs and complexities in accessing external credit and banks (Iakovleva et al., 2013). Another important enabler is the simplification of procedures that lies at the bottom of the hierarchy-based model because complicated processes are considered as major obstacles to female entrepreneurship (Welsh et al., 2016). The Social network is an important enabler with high driving power and, therefore, a significant variable in enhancing entrepreneurial behavior in individuals. Mari et al., (2016) have also claimed that the strategic support from social networks significantly affects the entrepreneur's performance. Moreover, it has been observed that entrepreneurship in Islamic society has not been able to make substantial changes in social values. Therefore, there is an immediate need to sensitize individuals regarding the value of the participation of both males and females in state-level economic activities. It has been revealed that sustainable entrepreneurs require certain traits and abilities to correspondingly create economic value while progressing social and environmental objectives. For instance, future change agents can deal with the complicated issues of sustainable development and entrepreneurship by identifying sustainable entrepreneurship competence (Lans et al., 2014). Likewise, empirical support has been provided by Ploum et al. (2018) after combining two competencies into one model and identifying six competencies that encourage future sustainable entrepreneurs in their attempts, including embracing interdisciplinary and diversity, strategic action and management, interpersonal competence, normative competence, systems thinking, and foresighted thinking.

5. Implications from Jordanian Perspective

In the case of Jordan, successful entrepreneurs should be identified by society. In this realm, universities play a vital role in organizing conferences, where these entrepreneurs communicate with potential entrepreneurs to reduce the obstacles towards entrepreneurship opportunities. Based on the findings, it can be claimed that Middle Eastern countries show a dynamic entrepreneurial performance at a macro level that is influenced by the entrepreneurial ecosystem. Policymakers must recognize the effects and causes of entrepreneurship for sustaining the entrepreneurial activities or growing the business. Therefore, this study has been conducted to review the status and effect of entrepreneurship on sustainable development and management in Middle Eastern countries. In the first part of the study, a broad and comprehensive systematic review has been conducted to present the opportunities, challenges, and enablers in Middle Eastern countries. In the second part of this review, a meta-analysis based on regression outcomes and meta-analytical regression analyses was conducted undertaking seven studies. The development of businesses is triggered by managerial and technical supports, which are offered by the private sector and trade associations that positively influence entrepreneurial performance based on entrepreneurial insights. Entrepreneurs are supported by infrastructures to timely send and receive their raw materials or products from the market. In turn, the findings showed that the soft and hard infrastructures can strengthen businesses and industries to enhance their performance (Prodan 2007; Nacu & Avasilcăi 2014). Promoting the cultural programs result in a business entry such as the introduction of entrepreneurship events and role models. The positive and negative business entry and development or exits are affected by the regulatory environment.

5.1 Limitations

This paper has its limitations. In the first place, the literature review may not have included all work on sustainable development, management, and entrepreneurship, and therefore, could be critiqued, even though it is quite comprehensive in its way. However, a complete and possible literature sample was determined and investigated correspondingly using a comprehensive and apparent clear search process. Conference papers, reports, and book chapters were also excluded. In the second place, the

issue of subjectivity in this research process was acknowledged. The data collection, analysis, and interpretation remain affected by the subjective evaluations of the researchers even though objectivity was increased through several evaluations.

6. Conclusion

The results obtained from these studies showed that the effect of entrepreneurship on sustainable development and management is not sufficiently positive in Middle Eastern countries as indicated by the low mean. These results are consistent with the findings of the annual report by the Global Entrepreneurship Index (GEI), in which Jordan was ranked 49th out of 137 countries. Likewise, Bahrain, Qatar, and the United Arab Emirates scored better in the GEI as compared to Jordan and other Middle Eastern countries. The findings obtained from meta-analytical regression analyses showed that markets positively influence entrepreneurial performance. The international and local markets allow entrepreneurs to commence or establish their businesses. The aspects of an ecosystem complete each other and the weakness of a factor might have some detrimental effects on other enablers. To be precise, the effects of other strong factors might be affected by entrepreneurship enablers and, consequently, impede the entrepreneurial performance. Therefore, the entrepreneurship programs must be implemented in Jordanian universities and businesses to obtain a potential outcome. The government, private sectors, and other actors should support the programs. Furthermore, it is essential to adopt a holistic, sustainable, and comprehensive approach to develop the entrepreneurship system. A more productive development of the research field, undertaking the stressing need of an overall sustainability transition is required. Thereby, sustainable entrepreneurship research should move away from its conceptual orientation towards an empirical approach for examining trade-offs, synergies, and effects of the entrepreneurship and sustainable development relationship. A wide understanding of the complicated interdependencies between cooperation of the different players and sustainability goals is important for avoiding compromises between the SD dimensions. There is an immediate need for strong commitment to training and education, specifically by the developing countries, and enforcement of the hard infrastructure policies is also mandatory. Finally, the national entrepreneurship environments must be strengthened in all countries' prominent policies regarding improvement in technology exports, finance, transfer, and tax.

Acknowledgment

The authors are grateful to the Applied Science Private University, Amman, Jordan for the financial support granted to this research project.

References

- Abdou, E., Fahmy, A., Greenwald, D., & Nelson, J. (2010). Social entrepreneurship in the Middle East: Toward sustainable development for the next generation. *Wolfensohn Center for Development, The Middle East Youth Initiative Working Paper*, 10.
- Abu Bakar, A. R., Ahmad, S. Z., Wright, N. S., & Skoko, H. (2017). The propensity to business startup: Evidence from global entrepreneurship monitor (GEM) data in Saudi Arabia. *Journal of Entrepreneurship in Emerging Economies*, 9(3), 263-285.
- Ahmad, S. Z., & Xavier, S. R. (2011). Preliminary investigation of Yemeni women entrepreneurs: some challenges for development and barriers to success. *International Journal of Entrepreneurship and Small Business*, 13(4), 518-534.
- Ahmed, A., & McQuaid, R. W. (2005). Entrepreneurship, management, and sustainable development. *World Review of Entrepreneurship, Management and Sustainable Development*, 1(1), 6-30.
- Al Marashi, H. (2010). Encouraging sustainable urban development in the United Arab Emirates. *Global Urban Development*, 2(1).
- Alheet, A. F. (2019). Investigating the relationship between entrepreneurial activity and economic growth: a case of Middle East. *Entrepreneurship and sustainability issues*, 7(2), 1036-1047.
- Bakar, M. S., Mahmood, R., Ramli, A., & Saad, R. M. (2016). Knowledge sharing behaviour and performance of academic leaders: mediating role of corporate entrepreneurship. *Middle-East Journal of Scientific Research*, 24(6), 2028-2035.
- Caputo, A., Mehtap, S., Pellegrini, M. M., & Alrefai, R. (2016). Supporting opportunities for female entrepreneurs in Jordan. *International Journal of Entrepreneurship and Small Business*, 27(2-3), 384-409.
- Chang, S. J., & Rhee, J. H. (2011). Rapid FDI expansion and firm performance. *Journal of International Business Studies*, 42(8), 979-994.
- D'Souza, C., & Taghian, M. (2018). Small and medium size firm's marketing competitive advantage and environmental initiatives in the Middle East. *Journal of Strategic Marketing*, 26(7), 568-582.
- Davari, A., & Najmabadi, A. D. (2018). Entrepreneurial Ecosystem and Performance in Iran. In *Entrepreneurship Ecosystem in the Middle East and North Africa (MENA)* (pp. 265-282). Springer, Cham.
- Dhillon, N., Dyer, P., & Yousef, T. (2009a). Generation in waiting: An overview of school to work and family formation transitions. *Generation in waiting: The unfulfilled promise of young people in the Middle East*, 11-38.
- Dhillon, N., Salehi-Isfahani, D., Dyer, P., Yousef, T., Fahmy, A., & Kraetsch, M. (2009b). Missed by the boom, hurt by the bust: Making markets work for young people in the Middle East. *Washington, DC: MEYI*.
- Eisenhardt, K. M., & Santos, F. M. (2002). Knowledge-based view: A new theory of strategy. *Handbook of strategy and management*, 1(1), 139-164.
- Elali, W., & Al-Yacoub, B. (2016). Factors affecting entrepreneurial intentions among Kuwaitis. *World Journal of Entrepreneurship, Management and Sustainable Development*, 12(1), 18-34.
- Frese, M., Rousseau, D. M., & Wiklund, J. (2014). The emergence of Evidence-Based entrepreneurship. *Entrepreneurship Theory and Practice*, 38(2), 209-216.

- Fu, H., Okumus, F., Wu, K., & Köseoglu, M. A. (2019). The entrepreneurship research in hospitality and tourism. *International Journal of Hospitality Management*, 78, 1-12.
- Iakovleva, T., Solesvik, M., & Trifilova, A. (2013). Financial availability and government support for women entrepreneurs in transitional economies: Cases of Russia and Ukraine. *Journal of Small Business and Enterprise Development*, 20(2), 314-340.
- Issa, N. S. C., & Al Abbar, S. D. (2015). Sustainability in the Middle East: achievements and challenges. *International Journal of Sustainable Building Technology and Urban Development*, 6(1), 34-38.
- Jabeen, F., & Faisal, M. N. (2018). Imperatives for improving entrepreneurial behavior among females in the UAE: An empirical study and structural model. *Gender in Management*, 33(3), 234-252
- Kargwell, S. A. (2012). Women entrepreneurs breaking through: Push and pull within UAE cultural context. *International Journal of Business and Social Science*, 3(17).
- Kemppainen, R. P. (2019). Saudi female innovators as entrepreneurs – theoretical underpinnings. *International Journal of Gender and Entrepreneurship*, 11(2), 166-185.
- Lans, T., Blok, V., & Wesselink, R. (2014). Learning apart and together: Towards an integrated competence framework for sustainable entrepreneurship in higher education. *Journal of Cleaner Production*, 62, 37-47.
- Liu, Y., Namatovu, R., Karadeniz, E. E., Schött, T., & Minto-Coy, I. D. (2020). Entrepreneurs' transnational networks channelling exports: diasporas from Central & South America, Sub-Sahara Africa, Middle East & North Africa, Asia, and the European culture region. *Journal of Ethnic and Migration Studies*, 46(10), 2106-2125.
- Mari, M., Poggesi, S., & De Vita, L. (2016). Family embeddedness and business performance: Evidences from women-owned firms. *Management Decision*, 54(2), 476-500.
- Megheirkouni, M., Thirlwall, A., & Mejheirkouni, A. (2020). Entrepreneurial leadership in middle east sport businesses: The impact of gender differences in cultural values. *Gender in Management*, 35(2), 167-188.
- Modarresi, M., Arasti, Z., Talebi, K., & Farasatkah, M. (2016). Women's entrepreneurship in Iran: How are women owning and managing home-based businesses motivated to grow? *International Journal of Gender and Entrepreneurship*, 8(4), 446-470.
- Movahedi, R., & Yaghoubi-Farani, A. (2012). Analysis of the barriers and limitations for the development of rural women's entrepreneurship. *International journal of entrepreneurship and small business*, 15(4), 469-487.
- Mubarak, A. (2006). Auditing sustainable development reports: accountability perspective: an exploration of Egypt and the UAE practices. *World Review of Entrepreneurship, Management and Sustainable Development*, 2(3), 211-230.
- Nacu, C. M., & Avasilcăi, S. (2014). Environmental factors influencing technological entrepreneurship: research framework and results. *Procedia-Social and Behavioral Sciences*, 109, 1309-1315.
- Naushad, M., Faridi, M. R., & Malik, S. A. (2018). Economic development of community by entrepreneurship: an investigation of the entrepreneurial intent and the institutional support to the local community in Al-Kharj region. *Entrepreneurship and Sustainability Issues*, 5(4), 899-913.
- Pfeffer, J., & Sutton, R. I. (2006). Evidence-based management. *Harvard business review*, 84(1), 62.
- Pistru, D., & Fahed-Sreih, J. (2010). Islam, entrepreneurship and business values in the Middle East. *International Journal of Entrepreneurship and Innovation Management*, 12(1), 107-118.
- Ploum, L., Blok, V., Lans, T., & Omta, O. (2018). Toward a validated competence framework for sustainable entrepreneurship. *Organization & Environment*, 31(2), 113-132.
- Prodan, I. (2007) Technological Entrepreneurship: Technology Transfer from Academia to New Firms, PhD thesis, University of Ljubljana, Ljubljana, Slovenia.
- Rashid, L. (2019). Entrepreneurship education and sustainable development goals: a literature review and a closer look at fragile states and technology-enabled approaches. *Sustainability*, 11(19), 5343.
- Sarango-Lalangui, P., Santos, J. L. S., & Hormiga, E. (2018). The development of sustainable entrepreneurship research field. *Sustainability*, 10(6), 2005.
- Schwens, C., Zapkau, F. B., Bierwerth, M., Isidor, R., Knight, G., & Kabst, R. (2018). International entrepreneurship: A meta-analysis on the internationalization and performance relationship. *Entrepreneurship Theory and Practice*, 42(5), 734-768.
- Shehadi, R., Ghazaly, S., Jamali, D., Jamjoom, M., & Insight, I. C. (2013). The rise of corporate social responsibility: A tool for sustainable development in the Middle East. *Booz & Company Available from: http://static.wanda.com/web/uploads/resources/BoozCo_The-Rise-of-Corporate-Social-Responsibility.pdf. Accessed, 20, 15.*
- Subeh, M. A., & Al-Rawashdeh, T. (2012). Urban sustainability, globalization and expansion organization in middle east. *Journal of Economics and Sustainable Development*, 3(14), 49-53.
- Vahidnia, H., Mitchell, J. R., Smith, J. B., Assaf, A. M., Mitchell, R. K., & Araci, Ö. (2019). Further exploring international entrepreneurial cognitions: The case of the Middle-East. *Journal of Business Venturing Insights*, 11, e00112.
- Welsh, D. H., Tullar, W. L., & Nemati, H. (2016). Entrepreneurship education: Process, method, or both?. *Journal of Innovation & Knowledge*, 1(3), 125-132.
- Zamberi Ahmad, S. (2011). Evidence of the characteristics of women entrepreneurs in the kingdom of Saudi Arabia: An empirical investigation. *International Journal of Gender and Entrepreneurship*, 3(2), 123-143.
- Zehra, K. (2018). *Resource mobilization among informal entrepreneurs: A case of event planning industry of Pakistan* (Doctoral dissertation, Jönköping University, Jönköping International Business School).

