

# How Women in Science can Boost Women's Entrepreneurship: Review and Highlights

Saad Darwish<sup>a</sup>, Safeya Alzayed<sup>b</sup>, Umair Ahmed<sup>c</sup>, <sup>a</sup>Kingdom University, Bahrain, <sup>b</sup>Arabian Gulf University, Bahrain, <sup>c</sup>Arab Open University, Bahrain,  
Email: <sup>a</sup>[saad.darwish@ku.edu.bh](mailto:saad.darwish@ku.edu.bh), <sup>b</sup>[safya\\_alzayed@hotmail.com](mailto:safya_alzayed@hotmail.com),  
<sup>c</sup>[umairahm@gmail.com](mailto:umairahm@gmail.com)

Men and women have equally contributed towards the development in the Arab community across various fields of science, innovation, and other aspects of society. However, less is known and highlighted pertaining to the role of women in this regard. Thus, the current work has attempted to recognise the role of Arab women in science and other connected fields. The study sheds light on the various aspects of women's contribution in the Arab community and how it has been vital in harnessing the Arab societies in an overall manner particularly in connection to entrepreneurship. This research has employed the general social survey methodology because it will help obtain precise results on current situations. The research used historical approach as a follow-up to the phases of the role of women in science. The results of the study showed that Arab women are active in different fields of science, which resulted in boosting entrepreneurial activities. The study reached some recommendations, most importantly to help guide policy makers on ensuring more objective plans and actions at the national level to enhance women's entrepreneurship.

**Key words:** *Women's Entrepreneurship, Arab women, Intellectual Capital, Women in science.*

## Introduction

Across all academic fields, from the natural sciences to psychology, sociology, and the mother of the philosophy of the sciences, "knowledge" remains the essential value at stake. The term 'philosophy,' which translates literally to "love of wisdom" is the discipline of how humans demonstrate the apparent order of different realities. This research paper does not address the "clear superiority of rationality," but instead, it takes a big leap, brings the

problem into a far closer and realistic context, and tells the public that the study of all truth, including intelligence, can have a profound and recent impact.

However, the definition of knowledge is extremely vague. Still, it is defined in its classical sense as any set of data that serves as raw material for any informed decision or of data that passes through a sender as messages. Knowledge is a series of structured information and perspectives, beliefs, and contextual cues that allow you to change the recipient *modus operandi*. Therefore, knowledge includes "knowledge" as "know-how" as well as "know-to-be" as a concept of a competent authority. This refers to the theoretical knowledge on one particular topic, the use of which is to solve practical issues and attitudes, which promote actions according to organisational values and culture. Knowledge is a fundamental component of the skills needed for development, in short, it is a key element in the production of the skills necessary to any society (Huis et al., 2017; Bolisani et al., 2017; UNPD 2109).

The GEM Project (Global Entrepreneurship Monitor), which analyses business activities across 70 countries, offers the most comprehensive information on entrepreneurial activities. The profile of women entrepreneurs across countries showed that the features of women entrepreneurs are similar to those of men and that the educational level was only significantly different when it came to female entrepreneurs at a point slightly higher than men (Neely, 2010)

In a study of environmental factors with influence in female entrepreneurship Noguera et al. (2013) hypothesised that training has a positive effect on the probability of women's undertakings, after the contrast used a statistical hypothesis about the GEM Project data. The author collected numerous investigations that reflected a positive effect of the training on female entrepreneurship and some difficulties in using training as an explanatory variable.

Typically, companies tend to have a two-cycle learning process, namely focusing on successes and failures. This process often indicates an active process. It underlines (self) learning, which is essential and continues to challenge women entrepreneurs based on their prior knowledge (Teixeira et al., 2020).

Furthermore, a study of the legal aspect of female entrepreneurship seems to be focused on the level of education and the experience women entrepreneurs have from the beginning and what could be considered for their learning processes.

## Research Questions

Women are important in terms of their contributions to the social and economic development of any society. Due to their intellectual, scientific, and creative abilities, they can play a significant role in economic development. In the Arab world, it is commonly known that traditions have prevented women from performing their important role in national life and social advancement. The present study focuses on the importance of the role of women in this respect.

- What is the role of women in scientific fields that can support women's entrepreneurship?
- What are the development programs through which women contribute to the development of Arab society via entrepreneurship?
- How can Arab countries support entrepreneurship?
- What are the recommendations that would help women to increase their role in entrepreneurship?

## Research Objectives

This is mainly to clarify the role of Arab women in science and its connection to entrepreneurship. It also discusses the elements that positively or negatively affect the role of women in scientific fields and women's entrepreneurship. It further assesses the current situation of the contribution of women to scientific fields. This study provides several suggestions and recommendations that may help in overcoming the obstacles that may impede the contribution of women in scientific fields to women's entrepreneurship.

Social responsibility is an issue that directly affects several dimensions such as the scientific, economic, social, political, cultural, and educational institutions of society. It is also crucial in that it reflects the development criteria of these domains and their levels. It indicates the individual awareness of rights and duties as well as whether a man or a woman takes to their role in confronting the challenges in their society.

The various participation of women is essential at all social levels. Thus, it is necessary that such societies, especially in Arab countries, should consider women's involvement as one of the most important issues and should support them to perform their social responsibilities. This is because women have an important role in shaping the future of their countries. Besides, women have various scientific abilities and capacities, which can contribute to a better society. Identifying the needs of Arab women is of significant importance in preparing the appropriate atmosphere for them to perform their different roles and responsibilities towards social development.

## **Research Methodology**

The current study employed Systematic Literature Review (SLR) as it "connects future research with the questions and concerns posed by past research.". Review studies are common in the social sciences domain (e.g., Mozammel, 2019), according to Thorpe et al. (2005). In particular, the word "systematic" means the introduction of clear and comprehensive search and analysis procedures. This form of the review will be most acceptable as the primary issue here is the "full collection, straightforward analysis, and reflective interpretation." In literature, we chose to follow the systems of previously well-known SLRs, including the process of collecting information and selecting studies, and a review will therefore be outlined.

Some keywords, which include but are not limited to women entrepreneurs, business development, challenges, opportunities, achievements, and specifically Arab, were included in the search strategy separately and in combination. The search engines (Google Scholar, PubMed, EBSCO, ProQuest, Emerald, JStore, Econlit, and Scopus) have checked this keyword from 2005 to 2019. The keywords used include women, businesswomen, Arab women, and business education.

## **Literature Review**

### ***The Concept of Entrepreneurship***

The concept of entrepreneurship refers to the willingness and capability to organise and manage business initiation while encountering risks (Kuratko, 2016). Entrepreneurship is contrary to employment whereby an individual strives to obtain and establish a business set up to provide services or tangible commodities. Successful entrepreneurs strive to bring together resources and intellect to offer something that is not just financially viable for themselves but also the society at large (Kaufmann, 2009). Entrepreneurs and entrepreneurial activities are essential for any thriving economy to resolve its contemporary issues and build the nation for a prosperous tomorrow (Harper, 2003). Economies across the globe have realised the significance of entrepreneurship ranging from youth (Ahmed, 2019) to women (Yadav & Unni, 2016).

### ***Women's Entrepreneurship***

A large number of studies conducted over the last 30 years helped to increase the understanding of individual and organisational characteristics of entrepreneurship in general and entrepreneurs in particular. As the research of women entrepreneurs and their companies grows, women entrepreneurs become familiar. This paper contributes to the literature on

entrepreneurship by organising the research stream around females in scientific education and female entrepreneurship in Arab countries.

First, American economists have suggested a rational investment behaviour in people's investment in education, health, vocational training, immigration, and other aspects. Such investments essentially form human capital (like other funds, the owner can benefit from it, but it is not separated from its owner). The philosophy of human capital breaks down the traditional idea of natural capital and extends capital to all added value services. The human capital is another determinant of society. The product of investments in human capital includes teaching people and employing technical intelligence. Human resources can only be the principal contributor to all manufacturing resources through a particular investment method. The contents of human capital are all human carriers and the effects of future revenue (Nyberg et al., 2015; Darwish, 2014).

Several researchers have explored how human capital and women's entrepreneurship intersect. For example, studies have paid dedicated attention to the development of models to study factors determining women's entrepreneurship. Accordingly, the role of factors related to human capital development has also been investigated in the recent past to outline its impact on female entrepreneurship (Semenčenko et al., 2016). Accordingly, scholarly evidence is also evident on the human capital prospects and its impact on female entrepreneurship in the developing economies (Adom & Asare-Yeboah, 2016). Typically, people perceive that skills and competencies needed for entrepreneurial activities do not exist in women. In addition, a general view also prevails which asserts that training for women and educational experiences are not very convenient for women to strive for. Equally, scholars have also been found reporting women being subjected to a mismatch for business leadership roles (Siba, 2019).

Some scholars have discovered that women entrepreneurs are better educated in non-traditional industries than traditional ones. In retail and wholesale, it shows that human capital has an important influence on women entrepreneurs' choices in the industry (Anna et al., 2000).

Nevertheless, for women entrepreneurs, human capital has a greater importance than men (Rosenbusch et al., 2011). In this case, a woman would easily be affected by traditional cognitional preference like "Your most important missions are to give birth to a boy and to care for your husband." For instance, women are considered subordinates of men in China's traditional culture, i.e., it is a female's duty to follow her husband's will, irrespective of her thoughts. A woman with a lower educational level typically, marries at a young age, because she cannot find high-tech work that is well paid to support herself, and she cannot take any kind of physical work as her husband does. However, if a person has a lower level of



educational, a certain amount of discrimination still prevails, in particular, when it comes to highly paid jobs (Jaw et al., 2007).

### ***Women Entrepreneurs and Scientific Knowledge in the Arab World***

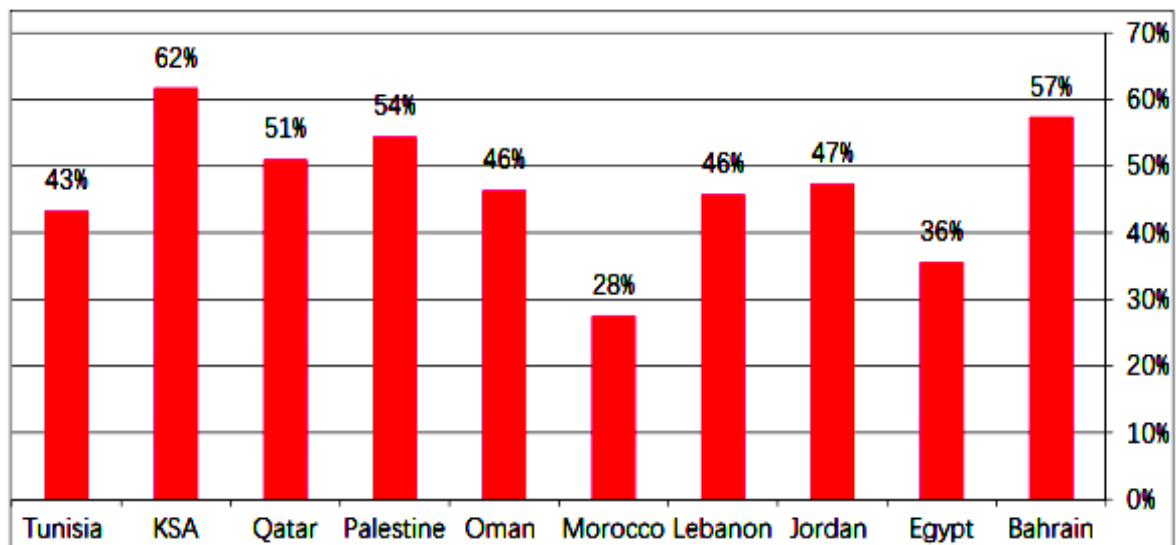
Globally, there are 74.6 million people in the civilian workforce today. There are 75.5 million women. Female workers are nearly 47% of the total U.S. workforce. In occupations where women constitute at least three-quarters of the workforce, over 39% of women work. Females own nearly 10 million companies, with sales of \$1.4 trillion. Female veterans tend to continue in employment: about 3 out of 10 are government workers in their country (DeWolf, 2017).

The rise of women in the Arab world starts early, with girls outperforming their male peers in school. In Jordan, girls do better than boys in school in nearly all subjects and at every age level, from grade school to university. When it comes to STEM subjects (which include skills critical to launching and running a start-up in the Fourth Industrial Revolution), several Arab countries are among the global leaders in terms of the proportion of female STEM graduates. According to UNESCO, 34-57% of STEM grads in Arab countries are women, which is much higher than in universities in the US or Europe (Islam, 2017).

It is strongly believed that there can be no real political, social, or economic progress without freeing women from exploitation. The focus on education can help improve and develop skilled workforce that aids Arab nations to grow competitively. A deep commitment to improve education opportunities and make them available to all eligible women is evident across several countries in the Arab world.

Many nations in the Arab world such as Kuwait, Yemen, and the U.A.E. did not obtain education until the 1960s. In comparison, the current situation is completely opposite since the majority of the Arab countries have developed their own tertiary education systems (Islam SI, 2004). The allocation of educational funds has increased substantially by up to 25% from the public budget in almost all Arab countries. Governments in some oil-producing countries are providing additional incentives for children as well as parents. Equally, most of these nations have also strived to make women's participation in education as one of their national priorities. Women are also reported to be enrolling more compared to men (Islam, 2017).

**Figure 1.** Percent of Women’s Enrollment in Arab Universities in 2015



**Source:** Islam (2017)

While many Arab women flourish at school, this achievement has not necessarily translated into employment and/or entrepreneurial activity. Instead, many women are either at home by choice or because of cultural, social, or family pressure. Of the 16 Arab countries, 13 have indicated that women have less than half of their employment seats. The workforce in Jordan and Yemen was more than five times the percentage of women in the work category. Notably, with 58 percent, Iraq records the highest difference in participation rates of men. The only countries reporting participation of female labour forces greater than 30 were mainly Bahrain and Kuwait, (Shayah & Sun, 2019).

In Saudi Arabia, women entrepreneurs often have extreme trouble doing business and making required relations with other businessmen and even engaging with customers. They are confronted by numerous difficulties because of insufficient funding and government support, lack of opportunities for business education, and specific obstacles of religious and cultural factors. A big legal challenge, for example is that women are required to be allowed to work or travel with a male guardian. This ethical obstacle comes from the teachings of culture and religion. This has a significant impact on your chances of starting your businesses or even finding jobs outside home.

It is generally known that the different scientific fields like Mathematics, Physics, Chemistry, Technology, and so on constitute the basis on which the foundations of modern civilisation have grown such as free rational thinking, scientific research, and the faculty of innovation and creativity. No one can deny the role and contribution of science, technology, and innovation on the various aspects of life, starting from personal well-being and moving to

education and corporate affairs. Sadly, there is a growing number of unemployed female scientists in the Arab region. Fifty-seven percent of science graduates are women in Saudi Arabia, but only 16% were in the labour force as of 2015.

Women have played an evident role across history in science fields such as engineering, medicine, pharmaceuticals, techniques, Arabic literature, FIQH, and interpretation. Also, there is a good chance that the new trends of artificial intelligence, data science, big data, Internet of Things, block chain and cloud computing are emerging technology and related disciplines to have women's involvement ( Darwish et al,2020). Besides improving their day-to-day life, women's involvement in science, technology, and innovation has also contributed to contemporary advancements. Therefore, there is an increase in the capacity of women to join and take advantage of this field to achieve the objectives of Arab societies (Welsh et al., 2014).

The paradox is that Arab women are utterly competent and play a productive role in the region's labour force. Currently, female literacy rates in the Arab region are nearly equal to those of men. Considering the higher percentage of women compared to their men matching part, it can easily be concluded that a women's share in the pool of talented individuals is higher than men. Also, some Arab women outperform men even in the tough sciences. Arab women who graduated in the STEM fields are more than that of the U. S. and Europe. Therefore, Arab women have the skills in STEM fields. However, one big question remains: why do Arab women not have the same chance to thrive in the labour force and business activities?

The problem is the reality of the culture of the Arab society, which affects men and women. Society members believe that female participants should not be required actively in an industry, which is the social and cultural barrier to women's participation in entrepreneurship. They face numerous problems due to insufficient funding and support from the government, lack of opportunities for entrepreneurship and unique challenges related to religious and cultural factors. One major legal barrier, for example, is that women must be permitted to work or fly with a male guardian. The ethical problem comes from the concepts of culture and religion. This has a significant effect on their chances of starting their own companies or even finding jobs outside the home.

The goal of this study is to understand the nature and significance of a woman's role in cultural transformation. For further advancement, a woman's position in the creation or transformation of society and the attitudes of society members must be modified. This study seeks to define the position of Arab women as half the workforce in all areas. The justification for this work is therefore in the sense of the future scientific and business view of the situation in Arabia. Human factor is the basis for the development of behavioural



feedback by community involvement. Also, the importance of women's participation has increased in all fields, including research, given the social and economic variables facing Arab countries. Therefore, women play a fundamental role in social development. Additionally, progress in any society is therefore connected with all types of services provided by women.

### ***The Social Responsibility of Arab Women***

There is no doubt that women have achieved many accomplishments to restore their deprived rights and they proved to be qualified enough in the tasks they are engaged in. Consequently, they participate in the process of development and are persistent to be an equivalent and to have a legitimate role in society. This will encourage the mobilisation of social resources and their investment in the process of development to achieve the improvement of society and to bridge the gap between men and women (Alazzawi, 2012).

Today, talking about development goes for both men and women. In other words, development is targeted to both genders. The development process is considered incomplete if it does not reflect on the equal participation of both genders. At the same time, all the development plans have taken into consideration the integration of women in the development process (Ekins, 2019). The enhancement of the role of women and the maximisation of their contribution to society are based on a firm belief that enhancing the status of women in scientific fields forms the cornerstones of social and developmental progress. Women have an effective role in the progress of society. This role depends on the social, scientific, and cultural position of women and their ability to change the society (Alshehabi, 2015).

The role of women is considered as one of the most important roles since it is responsible for building family capacity and this will help in achieving the goals of developing Arab society. In the light of the technological and scientific revolution and the rapid development in the social, scientific, and economic variables, it is essential to develop human resources. Women's liberation will help them to acquire the knowledge and sciences that enable them to successfully perform their duties and to contribute to the various scientific fields. Women have a social responsibility through which they can contribute to society and its progress.

Arab women proved to be able to contribute to the various scientific fields among others to achieve the progress of society. Women started to contribute to various scientific, cultural, economic, and political fields. This has made it impossible to develop any society without the positive role of women achieved through their social responsibility. Social responsibility is related to the social position that humans achieve through the role they perform and the results and benefits achieved for the society and its development (Dajani, 2012).

Social responsibility is the personal responsibility towards the group which gradually grows through the social upbringing and which consists of several tools among which are understanding, caring, and participation. The social role of women is defined as a group of socially specified characteristics and expectations that are connected to a specific position and has social importance. It shows that the activities of the individuals are socially restricted and follow specific behavioural patterns. Thus, women occupy a specific social position and are expected to follow specific behavioural patterns represented by educating, orienting, and guiding children to form a solid base for the human resources needed to achieve societal development (Wood et al , 2002)).

There is no doubt that the social and economic variables that some Arab countries witnessed have affected the motivations that led women to contribute to various fields such as scientific fields to be able to perform their role in developing society and to achieve their social responsibility which they are keen to achieve (Conley, 2015).

### ***Factors Motivating Arab Women***

There are some factors, which motivate Arab women to participate in the process of development, which are (Minhas, 2018):

#### **a. Social Motivations**

Some motivations urge women to contribute to development such as the fact that they are interested in contributing to the scientific production and fields. One of these social motivations is the education of women, since the education of women in the light of the social and cultural variables of societies is considered as part of the social motivations for the participation of women in social development. It is through this education that women have become more aware.

#### **b. Economic Pressures**

The economic pressures which most of the society members suffer from, have resulted in changing the trends about the contribution of women in the development and their participation in social development and progress.

#### **c. Scientific Fields**

Previous research has shown that education plays an important role in developing the abilities, skills, health, productivity, and income of humans so that they are able to better contribute to the economic and social development of their countries.



In the developed and developing countries, education has become a factor of development and progress in this era of technological revolution, knowledge, and global openness in various cultural, economic, and social fields—since the development of countries is measured by the level of education of their people. The competition among the countries of the world now is based on the level of educational insight. In addition, the issue of the development of human resources has become extremely significant for various societies, especially the developing ones in achieving comprehensive development. Thus, literacy has become an obstacle for the development of civilisation and a measure for the underdevelopment of countries (AlHarbi, 2010).

Education has changed Arab women’s position through their participation in work and due to the changes and social challenges; women have become interested in contributing to several various fields, such as scientific fields. Women started to unshackle from their traditional role into new horizons to participate in the development and progress of society. Women have been affected by scientific programs and academic researches through which they can continue to contribute to scientific fields which are considered as one of the major fields within which women can achieve success and be able to have an important role in the development and progress of the society (Darwish, et al, 2018)

The following are the roles through which women may contribute to social development through their participation in scientific fields (Giuliano, 2014).

Supporting academic research	Holding conferences
Supporting STEM sciences	Creativity in entrepreneurship
Holding training courses	Participate in publishing books and papers

### ***Barriers and Challenges for Arab Women Entrepreneurs***

There have been several studies in the Arab market on the strengths and difficulties of women. Programs to help small and medium scale enterprises (SMEs) become more viable and developable to boost family work, create jobs, and contribute to the development of finances ((Darwish, et al, 2020). In response to the survey in the Arab region, associations identified several challenges facing the development of the female-owned businesses in Arab economies as shown below (OECD, 2015):

#### **a. Cultural and Social Barriers**

Cultural barriers to women's business involvement are numerous and result in poor women workforce support rates together with domestic constraints that limit women's career options. They also often lack family support and face conflicting responsibilities in families and businesses (OECD, 2015).

### **b. Accessing Financing**

Women entrepreneurs are struggling with funding from banks in particular. The lack of property for women, while not the only one, could serve as a barrier to secure loans. BDS organisations have a serious issue of access to finance because a woman's entrepreneurial aspirations could not be fulfilled by supplying women with the BDS services because she could not secure funding for her project (OECD, 2015).

### **c. Failure for Women to Develop and Start a Business Support Structure**

Patriarchal managerial hiring continues the negative attitude towards female in a work setting. This includes training and development opportunities, methods of appraisal, and promotion in the sense of discrimination in hierarchical practices (Schein, 2007).

### ***Some Empirical Background***

Al-Kwif et al. (2019) examined, for example, the factors affecting the decision of young women students to enter the Kingdom of Saudi Arabia for business. The emphasis is primarily on issues faced by the businesswoman before starting a business. The approach used was quantitative, and 507 responses were obtained in 6 universities. It also underlined various problems, including ambiguous regulation of discriminatory procedures for women businesses, bureaucracy, outdated conventions, and prejudicial attitudes. They also found it difficult to obtain financial loans to meet their capital requirements. The findings concluded that efforts to promote Saudi women in networking, activism, and leniency for training on female entrepreneurship must be promoted.

The women entrepreneurs in the IT industry were investigated by Chandran and Aleidi (2019). The research provides a conceptual framework concerning the factors affecting women entrepreneurs in the IT field. Data from female universities in Saudi Arabia, technological and entrepreneurial incubators were collected. The data was analysed following the Partial Least Square approach, showing that various factors affect the intention of women to undertake IT business activities. Those factors include the important impact of perceived opportunities, role patterns and institutional factors, computer autonomy, and personal IT innovation.

The study of Alkathela (1992) entitled women and the Scientific Research in University Education between Reality and Challenges, underlined women had provided many scientific contributions in research, articles, and books that cover issues and problems facing society. The author proposed recommendations that achieve comprehensive development in the social and economic fields to set solutions and future visions for sustainable development.

Alrashid and Jamal (2002) investigated the effect of the social, democratic, and regulatory factors on the attitudes of the working woman towards the obstacles of their progress in work, identified the most effective one and examined the facilities and techniques that will help the employed woman in Jordanian Business Organisations. The study sample consisted of 521 female employees who worked in 43 Jordanian Business Organisations. The results of the study yielded:

In parallel, the study of Abdelfattah (2004), entitled "The Motivations Behind Women Work in Light of the Economic Variables," showed that when women work, men's financial pressures and responsibilities are reduced, which will have an effect on the stability of the family and society and consequently, will enhance production, work, and women's confidence plus their ability to take several decisions at work.

Alnimr (2004) clarified that women in Arab countries have a social responsibility due to their role in developing society. The results of the study showed that women usually work to prove that they are active members of society and that they have developmental responsibilities that are suitable for their practical and productive capacities. The study also clarified that the developmental role of women is achieved by their role towards their families.

Accordingly, Alothman (2006) in his study, attempted to identify the reality of the participation of the Jordanian women in human development in all its social, political, and economic aspects and the most significant obstacles that face this participation. This study is based on statistical data that have been collected from the estimation of human development and the employment and unemployment survey issued by the Jordanian Department of Statistics. The results showed that although the Jordanian women have achieved great accomplishments through their scholastic ability, their opportunities in the economic fields are still limited. The obstacles of the participation of women are related to structural and cultural factors and not legal ones. The majority of Jordanian citizens support equal educational opportunities for men and women.

## **Recommendations**

Based on the critical appraisal of the prior literature, the current study forwards some notable recommendations. First, women's entrepreneurship is a need of time, and the only way it can be harnessed and engrossed in a responsively manner in the society is through government involvement. The public sector has a much greater role to play to encourage, emphasise, and offer a platform for women to engage in entrepreneurial activities. Accordingly, there is a great need for public-private partnership particularly to boost women's entrepreneurship, which would not only help enhance business performance at the national level but would also



help push a major proportion of the population (female) into the workforce. Educational programs may also be launched, offering skills that women mainly lack in. In addition, specific industry and specialisation-based courses may be provided. Above all, Arab nations need to develop a holistic culture of promoting women's entrepreneurship for which government and civil societies need to work together.

## **Conclusion**

This paper attempted to examine the scientific literature on women entrepreneurs in science to provide an overview of the state-of-the-art research in this field. Therein, the review of prior literature across different databases suggests that women and men both have been contributing to various fields of science, innovation, and other studies in the Arab world. In particular, the study has also recognised the role of Arab women in various scientific fields, as they contribute to the advancement and development of society. The review results of the study also acknowledge the dimensions of the contribution of Arab women in scientific fields because they are based on their impactful work. Overall, the research shows that Arab women present and have a notable role in society.

Conclusively, we believe that the findings of this paper would help to raise awareness about women's entrepreneurship and their prominent role in stimulating the attention of academics and practitioners.

## REFERENCES

- Abdelfattah, C. (2004). *Employment of Women in the Field of Work*. PhD thesis, Ain Shams University, College of Arts, P. 44.
- Adom, K., & Asare-Yeboah, I. T. (2016). An evaluation of human capital theory and female entrepreneurship in sub-Saharan Africa. *International Journal of Gender and Entrepreneurship*.
- Ahmed, U. (2019). Influencing Youth Involvement in Entrepreneurship: Implications for Policy Makers in the Kingdom of Bahrain. *Annals of Contemporary Developments in Management & HR (ACDMHR)*, 1(3), 39-52.
- Alazzawi, N.K. (2012). *Enabling Women in the Sustainable Development in the Rural Areas of Baghdad*. M.A. Thesis, University of Cairo, Cairo.
- Alkathala, H.B.M. (1992). *Women and the Scientific Research in the University Education between Reality and Challenges: Pilot Stud*. King Saud University, College of Education.
- Al-Kwafi, O. S., Khoa, T. T., Ongsakul, V., & Ahmed, Z. U. (2019). Determinants of female entrepreneurship success across Saudi Arabia. *Journal of Transnational Management*, 25(1), 3-29. doi:10.1080/15475778.2019.1682769
- Alnimr, S. M. (2004). *The Saudi Female Student Directions in King Saud University towards Work*. General Administration Institution, P.40.
- Allothman, Mohammed A. (2006). Introduction to Society Development. Cairo, Nabil Printing Est., P. 8-9.
- Alrashid, A., & Jamal, A. (2002). Factors affecting the attitudes of women towards obstacles to their career in the Jordanian business organizations. *Social Sciences Studies*, 29(1).
- AlShehabi, O. (2015). Histories of Migration to the Gulf. *Transit states: Labour, migration and citizenship in the Gulf*, 3-38.
- Anna, A. L., Chandler, G. N., Jansen, E., & Mero, N. P. (2000). Women business owners in traditional and non-traditional industries. *Journal of Business Venturing*, 15(3), 279-303.
- Bolisani, E., & Bratianu, C. (2017). The Elusive Definition of Knowledge. *Knowledge Management and Organizational Learning Emergent Knowledge Strategies*, 16. 1-22. doi:10.1007/978-3-319-60657-6\_1
- Chandran, D., & Aleidi, A. (2019, January). Exploring antecedents of female IT entrepreneurial intentions in the Saudi context. In *Proceedings of the 52nd Hawaii International Conference on System Sciences*.



- Conley, J. M., Lázaro-Muñoz, G., Prince, A. E., Davis, A. M., & Cadigan, R. J. (2015). Scientific Social Responsibility: Lessons from the Corporate Social Responsibility Movement. *The American Journal of Bioethics*, 15(12), 64-66.
- Dajani, R. (2012). How women scientists fare in the Arab world. *Nature*, 491(7422), 9-9.
- Darwish, S., Al Deeb, H., Al Azzawi, A., Al Rashid, A. (2018) New Aspects and Applications of Entrepreneur's Critical Success Elements, *Appl. Math. Inf.; an International Journal Sci.* 12, No. 5, 1021-1030
- Darwish, S., Anjali G., Bunagan , V. (2020) Family businesses (FBS) in gulf cooperation council (GCC): review and strategic insights”, *Academy of Strategic Management Journal* , Volume 19, Issue3, 126-136.
- Darwish, S., Darwish, A, Bunagan , V.(2020) New Aspects on using Artificial Intelligence to Shape the Future of Entrepreneurs. (2020). *Information Sciences Letters*, 9(1), 39-50. doi:10.18576/isl/090106
- Darwish, S. (2014). Education and Human Capital Development in Bahrain:" Future International Collaboration with Malaysia. *International Journal of Academic Research in Management (IJARM) Vol, 3*, 321-334.
- DeWolf, R. (2017). The Equal Rights Amendment and the Rise of Emancipationism, 1932–1946. *Frontiers: A Journal of Women Studies*, 38(2), 47-80.
- Giuliano, P. (2014). The Role of Women in Society: from Preindustrial to Modern Times. *CESifo Economic Studies*, 1-20. Retrieved February 13, 2019 from [http://www.anderson.ucla.edu/faculty\\_pages/paola.giuliano/CESifo%20Economic%20Studies\\_May2014.pdf](http://www.anderson.ucla.edu/faculty_pages/paola.giuliano/CESifo%20Economic%20Studies_May2014.pdf)
- Harper, D. A. (2003). *Foundations of entrepreneurship and economic development*. Routledge.
- Huis, M. A., Hansen, N., Otten, S., & Lensink, R. (2017). A Three-Dimensional Model of Women's Empowerment: Implications in the Field of Microfinance and Future Directions. *Frontiers in Psychology*, 8. doi:10.3389/fpsyg.2017.01678
- Islam, S. I. (2017). Arab Women in Science, Technology, Engineering and Mathematics Fields: The Way Forward. *World Journal of Education*, 7(6), 12-20.
- Jaw, B., Ling, Y., Yu-Ping Wang, C. and Chang, W. (2007), "The impact of culture on Chinese employees' work values", *Personnel Review*, Vol. 36 No. 1, pp. 128-144. <https://doi.org/10.1108/00483480710716759>
- Kaufmann, H. R. (2009). The contribution of entrepreneurship to society. *International Journal of Entrepreneurship and Small Business*, 7(1), 59-73.
- Kuratko, D. F. (2016). *Entrepreneurship: Theory, process, and practice*. Cengage Learning.





- Minhas, W. A. (2018). *Advancing Entrepreneurship in the United Arab Emirates: Start-up Challenges and Opportunities*. Springer.
- Mozammel, S. (2019). Understanding Post-Training Factors and Job Performance Relationship: Review of Literature for Transfer of Training Enthusiasts. *Annals of Contemporary Developments in Management & HR (ACDMHR)*, 1(3), 33-38.
- Noguera, M., Alvarez, C., & Urbano, D. (2013). Socio-cultural factors and female entrepreneurship. *International Entrepreneurship and Management Journal*, 9(2), 183-197. doi:10.1007/s11365-013-0251-x
- Nyberg, J., & Wright, M. (2015). 50 years of human capital research: assessing what we know exploring where we go. *Academy of Management Perspectives*, 36(1). 108-118.
- OECD. (2015). OECD Education at a Glance. Retrieved from: <http://www.oecd.org/education/education-at-a-glance-2015.htm>
- Rosenbusch, N., Rauch, A., & Bausch, A. (2011). The Mediating Role of Entrepreneurial Orientation in the Task Environment–Performance Relationship. *Journal of Management*, 39(3), 633-659. doi:10.1177/0149206311425612
- Schein, V.E. (2007), "Women in management: reflections and projections", *Women in Management Review*, Vol. 22 No. 1, pp. 6-18. <https://doi.org/10.1108/09649420710726193>
- Semenčenko, D., Popović-Pantić, S., & Živković, L. (2016). Training as the indicator of female entrepreneurship development, and training needs analysis. *Journal of Women's Entrepreneurship and Education*, 7, (1-2), 18-36.
- Shayah, M. H., & Sun, Z. (2019, January). Employment in the Gulf Cooperation Council (GCC) Countries–Current Issues and Future Trends. In *2nd International Conference on Social Science, Public Health and Education (SSPHE 2018)*. Atlantis Press.
- Siba, E. (2019). Empowering female entrepreneurs in developing countries (Report: Empowering female entrepreneurs in developing countries). Retrieved from: <https://www.brookings.edu/wp-content/uploads/2019/02/Empowering-women-entrepreneurs-in-developing-countries-190215.pdf>
- Teixeira, N. M., Costa, T. G., & Lisboa, I. M. (2020). *Handbook of research on entrepreneurship, innovation, and internationalization*. Hershey, Pennsylvania (701 E. Chocolate Avenue, Hershey, Pennsylvania, 17033, USA): IGI Global.
- Thorpe, R., Holt, R., Macpherson, A., & Pittaway, L. (2005). Using knowledge within small and medium-sized firms: A systematic review of the evidence. *International Journal of Management Reviews*, 7(4), 257-281. doi:10.1111/j.1468-2370.2005.00116.x
- Welsh, D. H., Memili, E., Kaciak, E., & Al Sadoon, A. (2014). Saudi women entrepreneurs: A growing economic segment. *Journal of Business Research*, 67(5), 758-762.



- Wood, W., & Eagly, A. H. (2002). A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. *Psychological Bulletin*, 128(5), 699-727. doi:10.1037/0033-2909.128.5.699
- Yadav, V., & Unni, J. (2016). Women entrepreneurship: research review and future directions. *Journal of Global Entrepreneurship Research*, 6(1), 12-28.