

Push and pull model of women entrepreneurship: empirical evidence from the UAE

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Abstract

Purpose – This study aims to develop a push–pull factors theory of women entrepreneurship, to identify and prioritize the factors influencing Emirati women entrepreneurs, and also aims to implement the proposed theory in two cases: Emirati women entrepreneurs with business family and non-business family backgrounds.

Design/methodology/approach – The analytic hierarchy process (AHP) model was developed with 6 criteria and 19 sub-criteria, based upon the findings of previous studies. Data were collected using a questionnaire survey given to 20 Emirati women entrepreneurs in the United Arab Emirates (UAE). The respondents were selected on the basis of their family backgrounds. The data collected were interpreted and a priority vector was assigned to the criteria and sub-criteria.

Findings – A well-researched methodology was used for the synthesis of priorities and the measurement of consistencies. The findings show that education, skills and training are the three main criteria considered to be the most important factors that influence the growth and success of Emirati women entrepreneurs.

Research limitations/implications – The model can be used by authors for future academic and entrepreneurial studies. The findings interpreted can help policymakers and related associations develop various policies based on the specific factors found to empower Emirati women entrepreneurs in an effective manner. This process will increase the participation of Emirati women in the entrepreneurial field. The research model had limited dimensions and the findings cannot be generalized. Hence, it would be valuable to conduct future study in other countries to generalize the findings. The model can be enhanced by including other factors, and alternatives could be based on types of sectors.

Originality/value – This study is the first of its kind to present an AHP model that contains most dimensions influencing the success and growth of Emirati women entrepreneurs and prioritizes the dimensions based on their importance.

Keywords Analytic hierarchy process (AHP), United Arab Emirates (UAE), Women entrepreneurs, Individual norms

Paper type Research paper



1. Introduction

Entrepreneurship and new venture creation are the driving force of economic progression (Matlay, 2010). In recent decades, a substantial decline in gender favoritism has resulted in an increase in women's contributions toward entrepreneurial activities. The growth of the proportion of women entrepreneurs in developing countries has drawn the attention of both

the academic and the development sector. Donors, international public institutions, national and local governments, NGOs, private companies, charities, knowledge institutes and business associations have initiated programs or policies to promote and develop women's entrepreneurship. In 2012, 126 million women entrepreneurs started new ventures and 98 million were already established women entrepreneurs in 67 countries surveyed ([Global Entrepreneurship Monitor \(GEM\), 2012](#)). In recent years, the general attention to women and entrepreneurship in developing countries has increased to a great extent and the focus on this "untapped source" of growth seems to be indispensable nowadays for development practitioners and policymakers ([Minniti and Naudé, 2010](#)).

It is generally advocated that the number of women entrepreneurs will increase in the future as a result of both "pull" and "push" factors. The "pull" argument suggests that there are more women entrepreneurs because of the experience, know-how and financial means for entrepreneurship ([Singh and De Noble, 2003](#); [Walker and Webster, 2007](#)). The "push" argument, on the other hand, is based on the proposition that individuals are being "pushed" from the traditional labor market by factors such as age, gender discrimination, as well as a lack of attractive employment options ([Platman, 2004](#)). In such cases, starting businesses may be the only alternative for mature individuals wishing to resume economic activity.

In case of the United Arab Emirates (UAE), women empowerment is a critical and crucial issue, as women are considered decisive partners in the UAE's development at both the national and Emirate level ([Global Entrepreneurship Monitor \(GEM\), 2012](#)). Many women have been forced by different push and pull factors such as family hardships, oppression, empowerment by various governmental and non-governmental organizations and empowerment through education to engage in entrepreneurial practices. Female entrepreneurship at the early stage of activity was 4.3 per cent in 2011, which saw a decrease of 2 per cent from 2009. This was because of a high level of fear of failure and lack of confidence in their own skills in starting and operating businesses ([Global Entrepreneurship Monitor \(GEM\), 2012](#)). For the most part, Emirati women entrepreneurs have focused their business operations only in the service (56 per cent) and retail (43 per cent) sectors ([Global Entrepreneurship Monitor \(GEM\), 2012](#)). In another study, Emirati female entrepreneurs prioritized innovation strategy, opportunity recognition, finance and motivation as the main criteria that promote innovation in Emirati women-owned SMEs in the UAE. Also, raising and managing internal and external finances were also seen as a barrier women face that would prevent them from starting an innovative business ([Al Matroushi et al., 2019](#)). This gap needs to be filled by determining the factors that are hindering women entrepreneurs from entering other fields. Most of the previous research on women entrepreneurship has focused on either "push" or "pull" factors; however, less attention has been given to the reasons that individuals cite for choosing self-employment ([Dawson and Henley, 2012](#)). This study aims to address this research gap by introducing the push and pull model of women entrepreneurship. Besides, most of the previous studies on women entrepreneurship have focused on developing countries, while the political economy of the Arab world has started changing since the past few years and women have an ongoing role in the entrepreneurial circles. However, little has been known in this emerging area. Therefore, the objectives of this research are:

- to introduce the push and pull framework of women entrepreneurs;
- propose an analytic hierarchy process (AHP) model of the suggested framework; and
- prioritize the importance of push and pull factors in two different cases regarding women entrepreneurs, taking into consideration family business and non-family business backgrounds.

Because the push and pull framework of women entrepreneurship encompasses many criteria/factors and sub-criteria/sub-factors, this research was designed by composing a multi-criteria AHP model with qualitative criteria and sub-criteria that are further transformed into quantitative indicators providing a framework for women entrepreneurship. The complexity of a multi-criteria decision-making process is handled by the AHP, which is used in dealing with both qualitative and quantitative data (Saaty, 2008). The results of this study have implications for UAE policymakers because the aim is to prioritize improvement opportunities for women entrepreneurship.

The remainder of this paper is organized as follows. Section 2 provides a survey of the relevant literature and Section 3 details the overview of AHP. Section 4 presents the research methodology. The analyses and discussion of the research results are carried out in Section 5. The paper concludes with directions for future research in Section 6.

2. Literature review

Entrepreneurship is increasingly acknowledged as an essential component of economic growth, innovation, productivity and employment. The decisive issue of entrepreneurship is how to transform ideas into economic opportunities. Over the years, the importance of entrepreneurship and the entrepreneurial culture in relation to social and economic progress has often been undervalued. A unique definition provided by Turker and Selcuk (2009) describes entrepreneurship as the process of generating something of value by dedicating the appropriate time and resources, presuming the associated psychic, social and financial risks for obtaining the consequent results.

Women's entrepreneurial development is a fundamental element of national growth and development. Women have been known to possess extraordinary entrepreneurial skills which can enable them to succeed in different businesses. However, Marzouqi and Forster (2011) show that UAE women are considerably disadvantaged when it comes to entrepreneurial activities, especially in the information technology sector. The lack of women's participation in entrepreneurship has caused stagnation in the growth of the economy. In the past, women were seen as housewives and their roles were restricted to house duties and taking care of children. Those women who were lucky to have job opportunities, however, had low-quality jobs. Female nationals employed in the private sector accounted for 11 per cent, in contrast to those employed in the public sector (89 per cent). Also, female labor market participation rates in the UAE (20 per cent) significantly lag the OECD average (51 per cent) (Tahseen Consulting, 2015). The main reason behind this drastic difference is number of hours; work stress; family issues and responsibilities; and norms and status symbol (Naser *et al.*, 2009; Faisal *et al.*, 2017).

The subject of women in entrepreneurship should not be intertwined with the number of women who have begun to take up leadership roles in various government institutions all over the UAE (Cuervo *et al.*, 2007). However, while the number of women in leadership positions in institutional roles has increased, the role of women as entrepreneurs needs further encouragement, especially because in cases when women have become entrepreneurs, they have improved their position in society and enhanced family's relations in different aspects. In fact, Ahmad (2011) demonstrates that women's engagement in entrepreneurship has many benefits such as export development, service generation, supplies, productivity, job opportunities and women's talent growth.

Various theoretical perspectives have been used in studies on entrepreneurship, including McClelland's theoretical framework on the need to achieve, power and affiliate, which explains how people with a strong desire to achieve often end up as entrepreneurs (Franke and Luthje, 2004). Under this framework, various underpinnings for engaging in

entrepreneurial activities are identified, including attitude, personal traits and individual norms. However, there is little empirical evidence on this topic. The main goal of this paper is to understand the individual norms that influence the success of Emirati women entrepreneurs. The norms include education, training, skills, experience, motivation and knowledge. Considering these individual norms as criteria, a model has been prepared and literature has been discussed below on the basis of a model.

2.1 Push and pull model of women entrepreneurship

2.1.1 Education. Education is the preliminary benchmark needed to be a successful entrepreneur. Though some of the skills necessary for entrepreneurial decision-making are inherent (Singh and De Noble, 2003), others are acquired through formal education and training. Franke and Luthje (2004) found that persons with high levels of formal education are more likely to engage in and succeed in entrepreneurship. This was manifested by comparing entrepreneurship education between a business school in the USA and government institutions in Munich and Vienna. In all three countries, it was found that entrepreneurship education should be embedded at the early stage of academics and that entrepreneurial intentions of students solely depend on environmental factors and university education. The limitation of the study was that the authors failed to consider the different levels of entrepreneurial culture. Instead, they focused on education as influencing entrepreneurial decision. Turker and Selcuk (2009) found that higher education levels were linked to greater income and availability of startup capital for enterprise activities. As their study focused more on educational support factors, it may be reasonable to analyze the nature of entrepreneurship education, as it comprises different varieties. In addition, having higher educational levels, as they are associated with higher incomes (Kargwell and Inguva, 2012), implies that highly educated individuals are more likely to consider opportunity-based entrepreneurship, while less educated persons consider necessity-based entrepreneurship. A major limitation and a gap in all the research is that authors have not prioritized the main content of entrepreneurial education. Rather, they have focused more on the external factors that affect intention of the students to be entrepreneurs. Student intention cannot be considered reliable, as it may change depending on other factors (Turker and Selcuk, 2009). In the UAE, graduates are made up of 65 per cent female graduates compared to 35 per cent male graduates (United Arab Emirates Ministry of Information and Culture, 2013). Also, women comprise between 80 and 90 per cent of the student population in most of the federal institutions of higher learning (Pennington, 2017). Hence, if entrepreneurship education is accompanied with appropriate curriculum design and development of competencies at an early stage, female students will be able to convert their ideas into opportunities and will increase the levels of entrepreneurial participation in the UAE (Kargwell and Inguva, 2012; Jabeen *et al.*, 2017).

2.1.2 Training. Training has been identified by scholars as another benchmark for the success of women entrepreneurs. Dhiliwayo (2008) argues that while some employees perceive training as enhancing chances for career change or advancement, entrepreneurs perceive training as a tool to enhance effective problem-solving. Such training is part of entrepreneurial education. Continual training as part of the venturing process improves the performance of not only the entrepreneur, but also of her employees. The author used an experiential training model with role players (entrepreneur, SME, university, government institutions, private sector institutions and communities) to explain the impact of training on entrepreneurship and advised that training ought to be organized as close to the context of the business operations as possible. Such training, according to the author, enhances entrepreneurial performance analyses and organizational developments and is expected to

foster managerial, communication, technical and leadership skills required for entrepreneurial success. As there is no empirical evidence that the training model works, determining the challenges are difficult as the weaknesses of the model include non-existence of curriculum and content. Training priorities of entrepreneurs may differ depending on sectors or different stages in the entrepreneurial process; some of the gaps derived from the research require further investigation on different training models (Dhiliwayo, 2008).

Entrepreneurial education and vocational training should be supported by three pillars, industry, academics and government, which can act as stepping stones to becoming a potential entrepreneur (Kargwell and Inguva, 2012). Training should combine both classroom and field experience with real-life case studies to increase women's problem-solving skills and also to encourage them becoming more extrovert (Dhiliwayo, 2008). The main challenges Emirati women entrepreneurs face include networking, culture and traditions, looking up to an appropriate role model and lack of training in financial know-how (Global Entrepreneurship Monitor (GEM), 2013). Hence, in the UAE, Business Women Councils have been set up to provide training and development for the betterment and support of women entrepreneurs.

2.1.3 Skills. Among the six criteria, skills are identified as a major benchmark by scholars for the success of Emirati women entrepreneurs. Singh and De Noble (2003) found that technical skills or creativity are important as they imply the ability of the individual to come up with novel ideas and problem-solving tactics to inspire success. Choo and Wong (2009) argued that the managerial skills of an individual do not differ by gender. Such skills are supported by attending seminars and training, as well as through professional experience. Managerial skills include the ability of the individual to make decisions and influence the performance of other members of the organization, as well as the capacity to understand concepts, generate ideas and execute strategies. However, the major limitations in the study related to the generalizability of the findings because of sampling. Because the authors focused on retired, middle-aged military officers, the results cannot be generalized with civilian middle-aged entrepreneurs. There is also a difference in the motivations and barriers between civilian and ex-military entrepreneurs.

Leadership and communication skills of an entrepreneur have a great influence on business objectives and strategies and entrepreneurial decisions and also for the success of the entire entrepreneurial venture (Choo and Wong, 2009). This raises the question of whether male and female entrepreneurs lead differently. Randeree and Chaudhry (2012) determined that gender plays a very minor role in selecting a leadership style. Instead, organizational size and different sectors (public and private) play a major role in leadership style. Ahl (2006) argues that women have been found to lead differently from men, though this is not to imply that they are less effective as leaders. Women entrepreneurs in the UAE have found that not only do Emirati women face great social, cultural restrictions in starting and running of businesses (Suwaidi, 2012), but in addition, there are certain restrictions that limit the leadership styles that they can use, especially when their subordinates are men. This has led to the adoption of a participative leadership style. In most cases, women have all-women businesses to prevent any problems that may arise because of cultural restrictions. Because the study was conducted in Arab countries, the findings on culture cannot be generalized to other countries, as cultures differ internationally. Ultimately, knowing which leadership style to use in particular circumstances (whether participative, transactional and transformational) is the key skill in leadership.

2.1.4 Experience. Besides education, training, skills and experience also have been found to be a benchmark in the success of women entrepreneurs. Experience refers to previous

organizational experience (government or private) and entrepreneurial experience (family-owned business). Individuals often require relevant employment experience in an organization before engaging in an entrepreneurship venture (Carr and Sequeira, 2007). This type of experience influences their preference and attitudes toward entrepreneurship. However, there is mixed evidence on the impact of accumulated experience and the inclination toward entrepreneurship. Ahl (2006) found that the incidence of entrepreneurship increases monotonically but not laterally according to experience. Carr and Sequeira (2007) agree that prior family business exposure, as well as professional and managerial experience, can facilitate the attainment of entrepreneurial skills and knowledge, influence intentions and attitudes and finally increase the chances of entrepreneurial success. Quality and status of family business are not considered in their hypotheses and their positive and negative influence on the entrepreneur is a major gap in the study.

Benefits gained from past experience include market information, supplier's information, social networks, capital and potential employees and customers (Shepherd and DeTienne, 2005). Work experience and previous experience in self-employment (entrepreneurship) have been found to be more beneficial to Emirati women's entrepreneurial success than formal education (Kargwell and Inguva, 2012). Considering gender as a perspective, although the literacy level of Emirati women is higher than men's and the women's workforce is gradually increasing, entrepreneurial activities among women still remain low (Global Entrepreneurship Monitor (GEM), 2013). The difference in entrepreneurial activity can be explained by motivation.

2.1.5 Motivation. Motivation has been identified as a key to the success of Emirati women entrepreneurs. According to Bénabou and Tirole (2003), motivation is the driving force underpinning an entrepreneurial decision and is likely to influence the degree of success of the venture. Motivation mainly depends on push and pull factors. According to the push-factor framework, women's entrepreneurship decision is often motivated by lack of prospects, reduction in revenue, underemployment, unemployment and unsatisfying working conditions, while the pull factor results from the need for accomplishment and power (Naser *et al.*, 2009). In the UAE, many female entrepreneurs enter entrepreneurship so that they can balance their work and familial duties and attain their personal goals. Ryan *et al.* (2011) have determined that motivation's pull factor is the most important factor in explaining entrepreneurial success among Emirati women. In another study, Tlaiss (2015) reported that Emirati women opt for venture creation because of distinctive "pull-reasons" such as creating a higher purpose for themselves and aggregating their personal independence.

A different study conducted by Itani *et al.* (2011) revealed that traditional cultural motivations from family members hinder Emirati women's entrepreneurial advancements. This underlines the nature of the UAE society and the impact of family on the decisions of women entrepreneurs. Several scholars have argued that motivational attitudes differ depending on the gender (Itani *et al.*, 2011). However, Majumdar and Varadarajan (2013) found that gender has no impact on motivational attitudes in the UAE. Another source of motivation is the government, which can enhance women entrepreneurship through implementation of policies and elimination of trade barriers, making it easy to conduct business. Previous literature has failed to state the governmental stance toward women entrepreneurs. Though it seems that the government generally supports women entrepreneurship, it lacks awareness of the difficulties faced by women who want to become entrepreneurs in the UAE (Itani *et al.*, 2011; Naser *et al.*, 2009). In a recent study, Faisal *et al.* (2017) indicated that the most important barriers that negatively affect the growth of women

entrepreneurship in the GCC countries are lack of supportive regulatory environment, cultural and religious beliefs, gender bias and lack of family support.

2.1.6 Knowledge. Another important factor that enhances the success and sustainability of an entrepreneurial venture is knowledge. [Shepherd and DeTienne \(2005\)](#) indicate that the application of knowledge in a business is not to be misconstrued as implying the development of clever services and products or creation of ingenious sales tactics. In this study, the authors have created a positive relationship between prior knowledge, opportunity identification and financial rewards. The limitations are that only customers' problems are taken as a factor for prior knowledge and financial rewards are taken as a factor for opportunity identification. Considering market information and trends as a factor in prior knowledge and survival of the business and customer satisfaction as a factor in opportunity identification will fill the gap in the research.

The authors determine that all businesses face competition, but an entrepreneur should be well aware of their competitors' marketing strategies, products, pricing strategies and the services provided to their customers ([Kargwell and Inguva, 2012](#)). This approach is likely to help women entrepreneurs enhance their business performance and move ahead of their competitors. Some researchers have shown that conducting market research before engaging in an entrepreneurial activity will help entrepreneurs identify their opportunities and ensure sustainability in the market ([Shepherd and DeTienne, 2005](#)). Such knowledge can be obtained from the experience of employees, processes and designs of goods, company documents and files about suppliers and customers, market research, competitor analysis and with appropriate education and training ([Kargwell and Inguva, 2012](#)). The main challenge lies in harnessing, storing and sharing this knowledge in a way that enables quick, informed and timely decision-making for business success ([Ahl, 2006](#)). In the end, the woman entrepreneur must acknowledge that in a knowledge-based economy, the proper utilization of an organization's knowledge-base is essential for business effectiveness and productivity.

Ultimately, though environmental factors such as societal perception and availability of credit may influence the likelihood of women's entrepreneurial decisions, the success of such decisions relies highly on the experience, training, motivation, skills and education of the entrepreneur. Entrepreneurial education and training should be given in such a way that potential entrepreneurs recognize that failure is an integral part of entrepreneurship and is a part of effective learning. The managerial, technical and leadership skills of Emirati women entrepreneurs must continually be enhanced through education and training. Governments should also recognize the role of entrepreneurship in economic growth and should encourage entrepreneurial behavior through policies and practices. Based on the literature review, pull and push factors were identified ([Table I](#)) and used in the development of an AHP-based model.

Table I.
Key motivational
factors

Pull factors	Push factors
Autonomy and independence	Lack of higher education
Personal satisfaction and achievement	Dissatisfaction with previous occupation
Gaining higher social status	Unemployment
Economic freedom	Lack of career prospects
Use of personal knowledge and experience	Lack of support (family, friends and government)
Government support	Work-life balance
Rejecting stereotypical feminine identities	Lack of skills
Business familial background	Non-business familial background

3. Overview of analytic hierarchy process

The AHP is a methodology developed by Saaty (1980) to analyze rational and irrational values comprehensively according to the level of importance to the decision-making process. AHP facilitates formulating and simulating the human decision-making mechanism in multi-criteria evaluation procedures. This disintegrated representation of multiple level hierarchies helps the decision-makers identify the problem and deal with it in a clear manner. The complexity of the problem determines the number of levels of hierarchy. The following reasons make AHP the best methodology for this study: It provides a model that is easy and flexible for a wide range of unstructured problems; it integrates a deductive approach for solving complex problems; it can deal with the interdependence of the elements in a system; it reflects a natural tendency of the mind to sort elements of a system into different levels and group-like elements in each level; and it provides a scale for measuring intangibles and measuring priorities. The AHP provides a simple multiple criteria methodology for the evaluation of the alternatives (Hussain *et al.*, 2015). The AHP uses a multi-level hierarchical structure of the objectives, criteria and alternatives. Then pertinent data is derived from the pair-wise comparison to weight the importance of the decision criteria relative to the required performance. It is a proven mechanism for improving consistency and relative performance of an organization (Malik *et al.*, 2015).

AHP method structures the decision process into a hierarchy and the decision-making component involves choosing an option from different alternatives. Through a set of pair-wise comparisons at each level of the hierarchy, a matrix can be developed where the entities indicate the strength with which one element dominates another with respect to a given criterion. AHP is a principle of measurement through pair-wise comparisons and relies on the judgment of experts to derive the priority scales. These scales measure the intangibles in relative terms. The comparisons are made using a scale of absolute judgment that represents how much more one element dominates another with respect to a given attribute. The main concern of AHP is dealing with inconsistencies arising from the judgment and improving this judgment (Vinodh and Joy, 2012). AHP judges and selects the elements/concepts that have a greater influence on predetermined objectives. AHP has been used to accurately evaluate the influence of the criteria in terms of goals. Figure 2 presents the outline of the AHP method used in this research.

Recently, there has been a renewed interest in AHP as an emerging solution approach to complex real-world and multi-criteria decision-making problems (Lee and Drake, 2010; Ishizaka *et al.*, 2012). AHP has been successfully implemented in various fields. For example, Ghodsypour and O'Brien (1998), Korpela *et al.* (2001) and Lee and Hsu (2004) have implemented AHP in logistics management; Çebi and Bayraktar (2003) and Drake *et al.* (2013) have applied AHP in the manufacturing sector; Lee and Kwak (1999) and Kwak and Lee (2002) in health-care management; Masozera *et al.* (2006) and Malik *et al.* (2015) in environmental management; Kwak *et al.* (2005) in marketing disciplines; and Ngai and Chan (2005), Xiao-qing and Fang-fang (2010) and Grimaldi and Rippa (2011) in knowledge management. AHP has been used to select between alternatives (decision-making) or ranking prioritization (Badurdeen *et al.*, 2011) and, over the past years, AHP has become one of the most widely used tools for decision support for researchers and decision-makers (Hussain and Malik, 2016). Women entrepreneurship decision-making has also been an application area of AHP [see, for example, Bhooli and Chakherlouy (2014), Tsai *et al.* (2010)]. This study is the first to implement the push and pull framework of women entrepreneurship in the UAE context using the AHP model.

4. Analytic hierarchy process model and analysis

As shown in Figure 1, the first step is to identify the problem. The purpose of the research is to identify and prioritize push and pull factors for different cases of women entrepreneurs in the UAE. Therefore, this research has been designed by composing multi-criteria attributes. Figure 2 depicts the hierarchy of the proposed AHP model. The multi-criteria attributes are organized hierarchically with the highest level of the hierarchy being the overall goal, i.e. to identify and prioritize the push and pull factors. The push and pull factors of women entrepreneurship are represented as the criteria in Level 2. Each push–pull factor (criteria) is further divided in Level 2 into different types (sub-criteria) to illustrate common manifestations of the respective criteria.

As discussed in Section 1, one of the contributions of this study is its emphasis on the inclusion of push and pull factors: education, training, skills, experience, motivation and knowledge. All these six criteria and 19 associated sub-criteria of the push and pull model of women entrepreneurship have been derived from the literature, as shown in Table II.

The formulation of the AHP hierarchy was followed by the data collection from women entrepreneurs in two different cases, as shown in the alternatives in Figure 2. Case 1 focused on women entrepreneurs with family backgrounds in business and Case 2 focused on women entrepreneurs with non-business family backgrounds. As suggested by Saaty (1980), the questionnaire was designed on a nine-point scale (see Table II). An evaluation team was composed of three distinct women entrepreneurs and two relevant faculty members. It was made certain that the selected evaluators had sufficient experience and

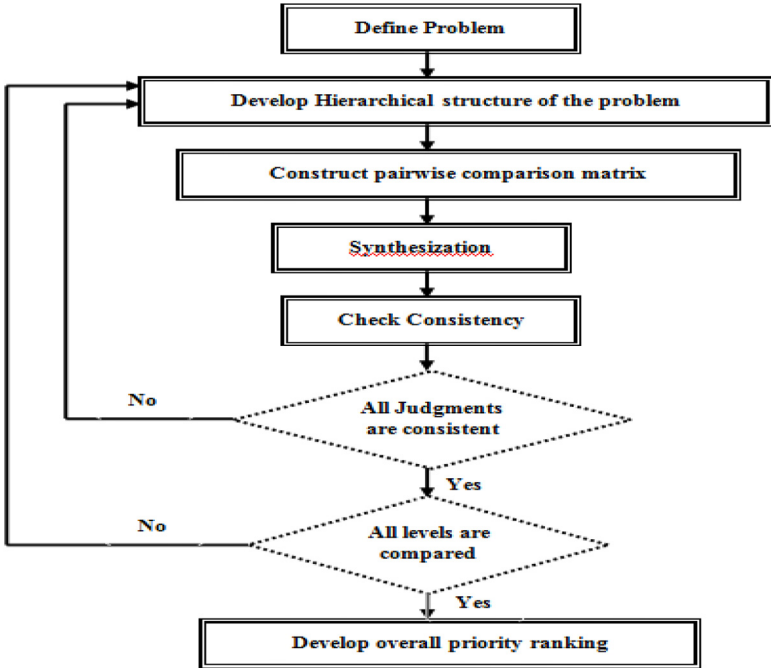


Figure 1.
Outline of AHP
method applied

Source: Hussain *et al.* (2015)

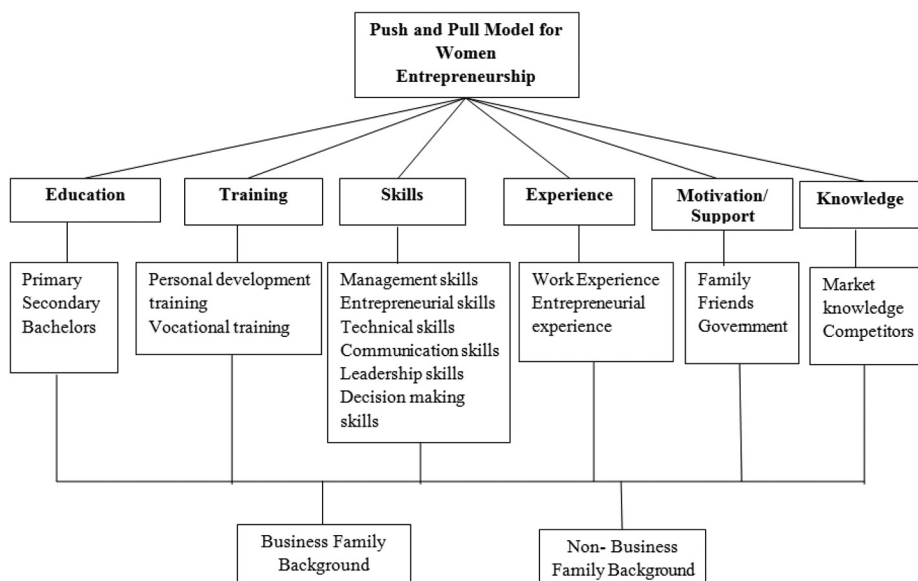


Figure 2.
Proposed model
using AHP

knowledge about women entrepreneurship practices. This confirmed the validity of the proposed research framework.

The target respondents were composed of ten successful women entrepreneurs for each case. According to [Drake et al. \(2013\)](#) and [Hussain and Malik \(2016\)](#), a small sample size is acceptable from the AHP methodology perspective. The AHP solves the survey fatigue problem by only asking participants to compare the importance of two needs at a time. These comparisons are called judgments. A judgment of only two items is much easier for the participants to complete than a list of 20 items ([Hussain and Malik, 2016](#)). The judgments we applied in making paired comparisons combined logical thinking with feeling developed from the experience. Pair-wise comparisons generate more information and so improve judgment consistency ([Saaty, 2012](#)). Therefore, the sample size of ten experts/respondents in each case was considered to be satisfactory for this study ([Saaty, 2012](#); [Drake et al., 2013](#)). Purposive sampling technique was used for sample selection and these samples were selected from “successful Emirati women 2016,” the list of ministry of commerce and trade. In line with [Saaty’s \(2012\)](#) suggestions, the geometric mean approach was preferred over the arithmetic mean to combine the individual pair-wise comparison judgments to obtain the consensus pair-wise comparison judgment matrices for the entire team.

4.1 Analysis of Case 1 – family business background

The objective of this research was to identify and prioritize push and pull factors in two different cases regarding women entrepreneurs. It is generally believed that persons from family business backgrounds have a competitive advantage over those who are from non-business family backgrounds. Therefore, this study focused on two different cases of women entrepreneurs; i.e. Case 1 – women entrepreneurs with family business backgrounds and, Case 2 – women with non-business family backgrounds. With respect to Case 1, data were collected from ten respondents with family businesses.

Table II.
Push and pull model
of women
entrepreneurship

Criteria	Sub-criteria	Reference
Education (ED)	1. Entrepreneurs engaged in formal education (up to graduation) are more likely to succeed in entrepreneurship (ED1, ED2) 2. Business school education (masters) (ED3) 3. Entrepreneurship education should be embedded at early stage (ED4)	Franke and Luthje (2004) , Jabeen <i>et al.</i> (2017) , Kargwell and Inguva (2012) , Turker and Selcuk (2009)
Training (TR)	1. Training should be organized as close to the context of the business operations as possible (TR1) 2. Vocational training acts as a stepping stone to be a potential entrepreneur (TR2)	Dhiliwayo (2008) , Kargwell and Inguva (2012)
Skills (SK)	1. Technical skills, business skill and managerial skill help the individual to come up with problem-solving tactics to inspire success (SK1, SK2 and SK3) 2. Leadership, communication and decision-making skill of an entrepreneur have a great influence on business objectives, strategies and entrepreneurial decision (SK4, SK5, SK6)	Choo and Wong (2009) , Randeree and Chaudhry (2012) , Suwaidi (2012) , Singh and De Noble (2003)
Experience (EX)	1. Family business exposure can facilitate the attainment of entrepreneurial skills and knowledge (EX1) 2. Professional experience can influence intentions and attitudes and finally increase the chances of entrepreneurial success (EX2)	Carr and Sequeira (2007) , Shepherd and DeTienne (2005) , Kargwell and Inguva (2012)
Support (SU)	1. Support mainly depends on the push (negative) and pull (positive) factors from family and friends (SU1) 2. Support from government, which can enhance women entrepreneurship through implementation of policies and elimination of trade barriers (SU2)	Bénabou and Tirole (2003) , Itani <i>et al.</i> (2011) , Jabeen <i>et al.</i> (2015) , Naser <i>et al.</i> (2009) , Tlaiss (2015)
Knowledge (KN)	1. Information on market trends is integral to the success of the business (KN1) 2. Entrepreneur should be well aware of their competitors marketing strategy, products, pricing strategy and the services provided to their customers (KN2)	Shepherd and DeTienne (2005) , Kargwell and Inguva (2012) , Ahl (2006)

As shown in [Figure 1](#), the next step in the AHP and the first step in the analysis was to determine pair-wise comparisons among the criteria applied. For defining pair-wise comparisons, [Saaty \(2012\)](#) has suggested a nine-point scale, as shown in [Table III](#). For example, if an evaluator identifies that experience is moderately more important than education, then the former is rated “3” and the latter as “1/3” in this comparison and so on.

Table III.
1 to 9 Scale for AHP
preferences

Intensity of importance	Definition	Explanation
1	Equal importance	Two criteria contribute equally to the objective
3	Moderate importance	Judgment slightly favor one over another
5	Strong importance	Judgment strongly favor one over another
7	Very strong importance	A criterion is strongly favored and its dominance is demonstrated in practice
9	Absolute importance	Importance of one over another affirmed on the highest possible order
2, 4, 6, 8	Intermediate values	Used to represent compromise between the priorities listed above

To check the consistency, the consistency index (CI) was applied. Saaty (1980) defined consistency as follows:

$$CI = (\lambda_{\max} - n) / (n - 1) \quad (1)$$

where $\lambda_{\max}$ is the maximum eigenvalue of the matrix of the importance ratios and n is the number of factors. Then, the consistency ratio (CR) is used to assess whether a matrix is sufficiently consistent or not. This is the ratio of the CI to the random index (RI), which is the CI of a matrix of comparisons generated randomly:

$$CR = CI/RI. \quad (2)$$

Random pair-wise comparisons have been simulated to produce average random indices for different-sized matrices. The values of RI are given in Table III (Saaty, 1980). According to Saaty (1980), if the value of CR is smaller or equal to 0.10, the inconsistency is acceptable.

Table V presents the geometric means of pair-wise comparison for six main criteria of the push and pull model of Case 1. The next step was to define the relative priorities of criteria (the final column of Table IV) by computing “priority vectors”. Saaty (1990) introduced a “consistency principle” for calculating priority vectors. Consistency principle says that $a_{ik} = a_{ij} \cdot a_{jk}$ and subsequent argument for using the special case of the consistency matrix formed by elements $a_{ik} = w_i/w_j$, where w_i and w_j are the elements of the priority weight vector corresponding to criteria i and j .

It can be seen from Table V that respondents for Case 1, who possess a family business, consider education to be the top-most priority for women entrepreneurs with 30 per cent priority weight and skills ranking second with 20 per cent priority weight. Prior experience seems to remain in the third position with 18 per cent and knowledge is the last norm that affects the growth and success of women entrepreneurs. This analysis shows that without education and skills, Emirati women entrepreneurs will not be able to attain success. All

N	1	2	3	4	5	6	7	8	9	10
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.48

Note: n is the number of factors

Table IV.
Random index

Table V.
Geometric means of
pair-wise comparison
of main criteria
(Case A)

criteria for success of women entrepreneurs by Respondent A showed an accepted level of consistency with CR value = 0.08.

Table VI shows the pair-wise comparison of the education, training, experience, support and knowledge sub-criteria. In case of the education sub-criteria, bachelor's and master's degrees are ranked the top priority with priority level 0.39. Primary education is ranked the least among all the education sub-criteria with 0.05 priority level. All sub-criteria of education shows acceptable level of consistency with CR value = 0.06.

Criteria	Education	Training	Skills	Experience	Support	Knowledge	Priority vector
Education	1.00	3.00	3.00	2.00	1.00	3.00	0.30
Training	0.33	1.00	0.50	1.00	3.00	1.00	0.13
Skills	0.33	2.00	1.00	1.00	3.00	3.00	0.20
Experience	0.50	1.00	1.00	1.00	3.00	3.00	0.18
Support	1.00	0.33	0.33	0.33	1.00	1.00	0.10
Knowledge	0.33	1.00	0.33	0.33	1.00	1.00	0.08

Note: CR value: 0.08 < 0.10 (consistent)

Education	Primary	Secondary	Bachelor's	Master's	Priority weight
Primary	1	0.14	0.14	0.14	0.05
Secondary	7	1	0.33	0.33	0.18
Bachelor's	7	3	1	1	0.39
Master's	7	3	1	1	0.39
<i>Training</i>		Personality development	Vocational training	<i>Priority weight</i>	
Personality Dev		1	1		0.50
Vocational Trng		1.00	1		0.50
<i>Experience</i>		Occupational experience	Entrepreneurial experience	<i>Priority weight</i>	
Occupational experience		1	0.50		0.33
Entrepreneurial experience		2.00	1		0.67
					CR = 0.00 < 0.10 (consistent)
<i>Motivational support</i>		Family	Friends	Government	<i>Priority weight</i>
Family		1	6.00	3.00	0.65
Friends		0.17	1	0.33	0.10
Government		0.33	3	1	0.25
					CR = 0.02 < 0.10 (consistent)
<i>Knowledge</i>		Market	Competition	<i>Priority weight</i>	
Market		1	1.00		0.50
Competition		1.00	1		0.50
					CR = 0.00 < 0.10 (consistent)

Table VI.
Geometric means of
pair-wise comparison
of sub-criteria with
priority weights
(Case 1)

In case of training sub-criteria, the respondents ranked both personality development and vocational training equally with 0.50 priority level. This ranking shows that both the sub-criteria are very important for the success of Emirati women entrepreneurs. All the sub-criteria of training show an acceptable level of consistency with CR value = 0.00.

In case of pair-wise comparison of experience, it is evident that entrepreneurial experience is ranked first with 0.67 priority level and occupational experience is ranked least with 0.33 priority level. This shows entrepreneurial experience is an added advantage for success. All the sub-criteria of experience show acceptable levels of consistency with CR value = 0.00. In case of motivation sub-criteria, the respondents ranked family support to be the most important factor with 0.65 priority level. Government support is ranked second with 0.25 priority levels and friends' support is ranked third with 0.10 priority level. All the sub-criteria of motivation show acceptable levels of consistency with CR value = 0.02. However, the pair-wise comparison of knowledge sub-criteria demonstrates that the respondents ranked both equally with 0.50 priority level. As the respondents are entrepreneurs, they are aware of market information and competitors' standards; acquiring information about them will help Emirati women entrepreneurs to be ahead of them. All the sub-criteria of knowledge shows acceptable levels of consistency with CR value = 0.00.

Table VII shows the pair-wise comparison of skills sub-criteria. Here, respondents ranked decision-making skills as top priority with 0.23 priority level. Leadership is ranked second with 0.20 priority levels and managerial and communication are ranked third with 0.18 priority level. Technical skill is ranked the lowest with 0.06 priority level; this shows that entrepreneurs do not give too much importance to technical know-how. All the sub-criteria of skills show acceptable levels of consistency with CR value = 0.02. Table VIII shows the rankings for all criteria, each sub-criterion and all sub-criteria combined.

4.2 Analysis of Case 2 – non-business background

The second group of evaluators was Emirati women entrepreneurs without family business experience but who possess occupational experience. Again, data were collected from ten such respondents and their average value was obtained for the criteria. Each sub-criterion is illustrated in the following matrices.

In summary, Table IX reveals that respondents in Case 2, who do not possess a family business, consider skills to be the top most priority for women entrepreneurs with 25 per cent priority weight and training ranking second with 23 per cent priority weight. Prior experience seems to remain in the fourth position with 11 per cent and knowledge and motivation are the norms that least affect the growth and success of women entrepreneurs. This analysis shows that without skills and training, Emirati women entrepreneurs will not

Skills	Managerial	Entrepreneurial	Technical	Communication	Leadership	Decision-making	Priority vector
Managerial	1.00	1.00	3.00	1.00	1.00	1.00	0.18
Entrepreneurial	1.00	1.00	3.00	1.00	0.50	0.33	0.14
Technical	0.33	0.33	1.00	0.33	0.33	0.25	0.06
Communication	1.00	1.00	3.00	1.00	1.00	1.00	0.18
Leadership	1.00	2.00	3.00	1.00	1.00	1.00	0.20
Decision-making	1.00	3.00	4.00	1.00	1.00	1.00	0.23

Note: CR value: $0.02 < 0.10$ (consistent)

Table VII.
Geometric means of
pair-wise comparison
of skills sub-criteria
with priority weights
(Case 1)

Table VIII.
Ranking of priorities
for criteria and
sub-criteria of Case 1
(family business)

Criteria	Priority	Criteria ranking	Sub-criteria	Priority	Sub-criteria ranks	Total priority	Total sub-criteria ranking
Education	0.303	1	Primary	0.05	3	0.01	8
			Secondary	0.18	2	0.03	6
			Bachelor's	0.39	1	0.07	3
			Master's	0.39	1	0.07	3
Training	0.134	4	Personality development	0.50	1	0.08	2
Skills	0.196	2	Vocational Training	0.50	1	0.08	2
			Managerial	0.18	3	0.03	6
			Entrepreneurial	0.14	4	0.02	7
			Technical	0.06	5	0.01	8
			Communication	0.18	3	0.03	6
			Leadership	0.20	2	0.03	6
Experience	0.184	3	Decision-making	0.23	1	0.04	5
			Occupational experience	0.33	2	0.06	4
			Entrepreneurial experience	0.67	1	0.11	1
			Family	0.65	1	0.11	1
Support	0.101	5	Friends	0.10	3	0.02	7
Knowledge	0.082	6	Government	0.25	2	0.04	5
			Market Competitors	0.50	1	0.08	2

Table IX.
Pair-wise comparison
and priorities of all
criteria (Case 2) in
non-family business

Criteria	Education	Training	Skills	Experience	Support	Knowledge	Priority vector
Education	1.00	0.50	1.00	3.00	1.00	3.00	0.20
Training	2.00	1.00	1.00	2.00	3.00	1.00	0.23
Skills	1.00	1.00	1.00	3.00	3.00	3.00	0.25
Experience	0.33	0.50	0.33	1.00	3.00	1.00	0.12
Support	1.00	0.33	0.33	0.33	1.00	1.00	0.09
Knowledge	0.33	1.00	0.33	1.00	1.00	1.00	0.11

Note: CR value: 0.09 < 0.10 (acceptable)

be able to attain success. All criteria for success of women entrepreneurs by Respondent B showed an accepted level of consistency with CR value = 0.09.

Table X shows the pair-wise comparison of the education, training, experience, support and knowledge sub-criteria of the non-family business background. A bachelor's degree ranks top with a 0.42 priority level and a master's degree ranks as a second priority with priority level 0.37. Primary education ranks the least among all the education sub-criteria with a 0.04 priority level. All sub-criteria of education show acceptable levels of consistency with CR value =0.10. In case of pair-wise comparison of training sub-criteria, the respondents ranked personality development training as the first sub-criterion with a 0.83 priority level and vocational training second with a 0.17 priority level. This ranking shows Emirati women entrepreneurs should be given personality development training to increase their self-confidence and to be geared up to take risk. All the sub-criteria of training show acceptable levels of consistency with CR value = 0.

Education	Primary	Secondary	Bachelor's	Master's	Priority weight
Primary	1	0.14	0.14	0.14	0.04
Secondary	7	1	0.20	0.33	0.16
Bachelor's	7	5	1	1	0.42
Master's	7	3	1	1	0.37
					CR = 0.10 = 0.10 (acceptable)
<i>Training</i>		Personality development	Vocational training		<i>Priority weight</i>
Personality development		1	5		0.83
Vocational training		0.20	1		0.17
					CR = 0.00 < 0.10 (acceptable)
<i>Experience</i>		Occupational experience	Entrepreneurial experience		<i>Priority weight</i>
Occupational experience		1	0.33		0.25
Entrepreneurial experience		3.00	1		0.75
					CR = 0.00 < 0.10 (acceptable)
<i>Motivational support</i>		Family	Friends	Government	<i>Priority weight</i>
Family		1	5.00	2.00	0.56
Friends		0.20	1	0.20	0.09
Government		0.5	5	1	0.35
					CR = 0.05 < 0.10 (acceptable)
<i>Knowledge</i>		Market	Competition		<i>Priority weight</i>
Market		1	1.00		0.50
Competition		1.00	1		0.50
					CR = 0.00 < 0.10 (acceptable)

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Table X.

Geometric means of pair-wise comparison of sub-criteria with priority weights (Case 2)

Pair-wise comparison of experience in Table X shows that entrepreneurial experience is ranked first with a 0.75 priority level and occupational experience is ranked least with a 0.25 priority level. This shows entrepreneurial experience is an added advantage for success. All the sub-criteria of experience show acceptable levels of consistency with CR value = 0.00.

In case of motivation sub-criteria, from the respondents' perspective, family support is ranked to be the most important factor with a 0.56 priority level. Government support is ranked second with a 0.35 priority level and friends' support is ranked third with a 0.09 priority level. All the sub-criteria of motivation show acceptable levels of consistency with CR value = 0.05.

In case of pair-wise comparison of knowledge sub-criteria, the respondents ranked both equally with 0.50 priority level. As the respondent does not possess any entrepreneurial experience, a complete market research was conducted before starting the business, which proved very advantageous for the business. All the sub-criteria of knowledge show acceptable levels of consistency with CR value = 0.00.

Table XI shows the pair-wise comparison of skills sub-criteria. Here, respondents ranked leadership skills as a top priority with a 0.32 priority level. Managerial skills ranked second with 0.20 priority levels, decision-making and communication skills ranked third and fourth

with 0.17 and 0.16 priority levels, respectively. Technical skills ranked the lowest with a 0.04 priority level. This shows entrepreneurs do not give too much importance to technical know-how. All the sub-criteria of skills show acceptable levels of consistency with CR value = 0.08. [Table XII](#) shows the rankings for all criteria and all sub-criteria combined.

5. Discussion

The main aim of this research paper is to classify and comprehend the push and pull factors and propose an AHP model that prioritizes the factors that influence the growth and success of Emirati women entrepreneurs in the UAE. The proposed model is derived from the literature review and consists of 6 dimensions (criteria) and 19 factors (sub-criteria). To prioritize these factors, a questionnaire comprising the above-mentioned scales was used to

Table XI.
Geometric means of pair-wise comparison of skills sub-criteria (Case 2)

Skills	Managerial	Entrepreneurial	Technical	Communication	Leadership	Decision-making	Priority vector
Managerial	1.00	1.00	5.00	3.00	0.50	1.00	0.20
Entrepreneurial	1.00	1.00	3.00	1.00	0.20	0.33	0.11
Technical	0.20	0.33	1.00	0.20	0.20	0.25	0.04
Communication	0.33	1.00	5.00	1.00	1.00	1.00	0.16
Leadership	2.00	5.00	5.00	1.00	1.00	3.00	0.32
Decision-making	1.00	3.00	4.00	1.00	0.33	1.00	0.17

Note: CR value: 0.08 < 0.10 (acceptable)

Table XII.
Ranking of priorities for criteria and sub-criteria of Case 2 (non-family business)

Criteria	Priority	Criteria ranking	Sub-criteria	Priority	Sub-criteria ranks	Total priority	Total sub-criteria ranking
Education	0.203	3	Primary	0.04	4	0.01	11
			Secondary	0.16	3	0.03	9
			Bachelor's	0.42	1	0.07	5
			Master's	0.37	2	0.06	6
			Personality development	0.83	1	0.14	1
Training	0.230	2	Vocational training	0.17	2	0.03	9
			Managerial	0.20	2	0.03	9
Skills	0.250	1	Entrepreneurial	0.11	5	0.02	10
			Technical	0.04	6	0.01	11
			Communication	0.16	4	0.03	9
			Leadership	0.32	1	0.05	7
			Decision-making	0.17	3	0.03	9
			Occupational experience	0.25	2	0.04	8
Experience	0.117	4	Entrepreneurial experience	0.75	1	0.13	2
			Family	0.56	1	0.09	3
Support	0.092	6	Friends	0.09	3	0.02	10
			Government	0.35	2	0.06	6
Knowledge	0.109	5	Market	0.50	1	0.08	4
			Competitors	0.50	1	0.08	4

collect data from promising Emirati women entrepreneurs. They were selected on the basis of existence of family businesses and non-business families. The analysis of data derived from respondents indicates the ranking of priorities for the criteria and sub-criteria affecting the success of Emirati women entrepreneurs in two different cases in the UAE.

According to Case 1, family business, respondents have based their business on the service sector and retail sector. This proves the findings by [Global Entrepreneurship Monitor \(GEM\) \(2013\)](#) that Emirati women entrepreneurs focus on retail and service sectors. In the analysis, respondents have put great emphasis on education (30 per cent) and skills (20 per cent), respectively. During the interview, the respondents agreed that there is a direct relationship between education and the success rate of women entrepreneurs but also suggested entrepreneurial education will benefit more future entrepreneurs, which reflects the findings where education is a critical success factor ([Kargwell and Inguva, 2012](#)). Skills are ranked second in the analysis and respondents are in agreement that factors mentioned in the sub-criteria are very important but more emphasis is given to decision-making (23 per cent) and leadership skills (20 per cent), which can be developed through experience and training. This is proved in the analysis of the overall sub-criteria where entrepreneurial experience (11 per cent) and vocational and personality development training (8 per cent) are ranked, respectively. The respondents agree that family support (11 per cent) and knowledge about market and competition (8 per cent) play an important role in success. The study is in alignment with the previous researchers ([Jabeen *et al.*, 2015](#)) who affirmed that family support is an important element for Emirati women entrepreneurs.

In Case 2, non-business family entrepreneurs, all the respondents have based their business in the service sector. Even though they do not possess entrepreneurial experience, they possess occupational experience, i.e. in government organizations. In the analysis, respondents put great emphasis on skills and training, respectively. Skills (25 per cent) and training (23 per cent) play a major role in the growth and success of Emirati women entrepreneurs, whereas prioritizing the overall sub-criteria “personality development training” (14 per cent) is ranked first. This implies that increasing self-confidence and diminishing the fear of failure through training is very necessary and will improve Emirati women’s participation in entrepreneurial activities. Respondents claim that possessing entrepreneurial experience (13 per cent) is an added advantage to increasing the success rate, whereas occupational experience is only beneficial if it is in the same area of business; otherwise, it helps in improving managerial skills. As respondents lacked entrepreneurial experience, before entering into the entrepreneurial field, a thorough market research was conducted to attain market (8 per cent) and competitor knowledge (8 per cent). Respondents agreed that they did not receive any formal entrepreneurial training to improve their skills.

5.1 Implications

To the best of our knowledge, this is a first study focusing on push and pull factors affecting the growth and success of Emirati women entrepreneurs and prioritizing these factors using an AHP method. Theoretically, the research study proposes an AHP model for empirical studies that connects criteria such as education, training, skills, experience, motivation and knowledge. Furthermore, previous research did not emphasize the importance/weights of these factors and this study also fulfills this research gap. The analysis of the model confirms the findings of the existing literature in an UAE context. From the study, although all the above factors are important, an entrepreneur’s education, skills, training and motivation play a vital role in their development. The model can be used and developed by authors for future academic and entrepreneurial studies and the AHP method can be used to solve complicated decision-making problems in the entrepreneurial sector. Practically, the

study includes interpretations and discussions that will help policymakers and related associations formulate and develop various policies to empower Emirati women entrepreneurs in an effective manner. It will help not only women entrepreneurs who are already established, but also those who are still groping in the dark for success. The findings of the study will motivate Emirati women entrepreneurs to shape, improve and surpass themselves to achieve sustainable growth and success. As suggested by [Itani et al. \(2011\)](#), such a study could eliminate instances of discrimination among women in the society and emphasize their importance in the economic growth and development of the UAE.

5.2 Limitations and future study

Entrepreneurship research has been primarily positivist in its paradigmatic stance to date ([Ahl, 2006](#); [Lewis et al., 2007](#)). However, this study has several limitations and can only be considered as a pilot study regarding the issue of women entrepreneurship in an UAE context. Study findings and results are based on two different cases of women entrepreneurs. Similarly, women entrepreneurs from different business areas might result in different outcomes. The major limitations can be opportunities for future studies; as the research study was conducted in the UAE, it cannot be generalized, and hence, for future studies, research should be done in other regions. In this research study, culture was not considered as criteria. In future studies, the model could be enhanced by including culture as a criteria and adding sub-criteria. Here, alternatives were selected only on the basis of entrepreneurial experience. For future studies, the alternatives could be selected on the basis of types of sectors such as retail, wholesale, service, manufacturing and agriculture.

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