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Determinants of female entrepreneurship success across Saudi Arabia

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ABSTRACT

The purpose of this paper is to examine the factors that affect the decision of university female students to start a business in the Kingdom of Saudi Arabia. Most of the existing research focuses on exploring the challenges female entrepreneurs face *after* they start a business, but no research has investigated the challenges they encounter *before* they start a business. A total of 507 responses were collected from six universities in the Kingdom of Saudi Arabia. Findings show that knowledge about starting a business is the most influential factor that motivates female students to establish their own business.

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Entrepreneurship; female entrepreneurs; Kingdom of Saudi Arabia; knowledge; supportive structure; discrimination

Introduction

The unequal status of females relative to men in many countries in the Middle East is a major ingredient that prevents females from becoming successful entrepreneurs compared with females in the West (Jamali, 2009; Javadian & Singh, 2012). Nazir and Tomppert (2005) note that systematic discrimination has become entrenched and inherent in law, criminal justice system, economy, health care and education across the Middle East, keeping females oppressed and limited in what they are allowed to do. In the West, most females compete on an equal footing with men. This is because laws are enshrined in the legal codes of most nations in North America and Europe that guarantee the rights of females are equal to men. In general, both Saudi cultural and business system regime treat females unequal to men.

Although communities across the Middle East maintain a strict patriarchal status, globalization is forcing people around the world to make changes by

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harnessing equality and similar patterns in all aspects of life (Moghadam, 2007). This liberal thinking means that females should be afforded equal rights when starting their own business. In 2012, the Kingdom of Saudi Arabia (KSA) acknowledged that the Kingdom's approach to the issue of females' right needs to change since the world around it is becoming more liberal (Ramady, 2010). Recently, the KSA government started a significant reform to appoint females to top positions, providing the blueprint for further emancipation of females. KSA is among the nations that recognize the importance of prioritizing entrepreneurship activities as a vehicle to accomplish economic growth and prosperity. KSA has appreciated that inspiring entrepreneurs is one tactic of achieving the eminence of a developed nation globally (Razan, 2007). In 2012, the World Bank survey placed KSA in position 13 out of 177 countries that offered an easy foundation for doing business.

Despite all these initiatives of the KSA government, female entrepreneurs encounter an apparent style of discrimination in their fights to contribute in the economic development of their own nation. This stems from the many confronts females handle in regard to entrepreneurship, most of the difficulties being founded on the ground of their gender (Jones & Clifton, 2017; Smith-Hunter, 2006). Among many challenges are restricted access to financial funds to support females establish their own businesses, less support from community, and control of the business by male partners who act as a barrier to the success of females. According to annual business statistics in KSA, only 4% of the businesses are recorded under females' names, meaning thereby that the remaining 96% are registered by men. It will remain unfeasible for the females in KSA to prosper in business unless the government takes up the duty of ending this gender-based stereotyping that is grounded on misguided policies (Dechant & Al Lamky, 2005). If meaningful changes are to occur, females in the KSA need to be financially emancipated (Keddie, 2007). This advancement will require the Saudi government to guarantee the right of Saudi females to work to earn a living and become entrepreneurs.

Most of the existing research examines the challenges female entrepreneurs in the KSA face *after* they start their own business (Ahmad, 2011a, 2011b), but no research has explored the challenges females face *before* they start a business. It is important to note that Saudi policymakers acknowledge the barriers females in the KSA encounter at the early stages of launching a business. Ahmad (2011a) conducted a research study on the entrepreneurial experiences of a group of females who were successful, but a large number of females were excluded from the study; those who are in the process to start a business. Therefore, the challenges these females had to overcome were not documented. Our research aims to fill up this gap in knowledge by identifying the key factors that affect a female's decision to start and grow a business in the KSA. The study aims to answer the following questions: (1)

How can government programs help females to become successful entrepreneurs? (2) Is it critical for a woman who plans to start a business to seek knowledge that will help her make the right business decisions?

Literature review

Female entrepreneurship has gained popularity around the world over the past four decades (Bird & Brush, 2002; Brush, 1992; DeBruin, Brush & Welter, 2007; Paoloni & Serafini, 2018; Pergelova, Manolova, Simeonova, Ganeva, & Yordanova, 2019; Simpson, 2011), with a growing trend for females to start and run their own business (Bruni, Gheraradi, & Poggio, 2008; Rey-Martí, Porcar, & Mas-Tur, 2015). In addition, the promotion of feminist studies in academia and other initiatives of empowering females have led to a desire to learn more about businesses that are owned and run by females (Ribes-Giner, Moya-Clemente, Cervelló-Royo, & Perello-Marin, 2018; Simpson, 2011). There are many reasons why females should consider becoming entrepreneurs and enter the business world (Hossain, Naser, Zaman, & Nuseibeh, 2009). DeTienne and Chandler (2007) point out that female entrepreneurship revolves around four main matters: opportunity recognition, networking, financing, and performance of firms; these are the foundations upon which females can build and control their own business.

Entrepreneurship in the Western countries

Although the number of female entrepreneurs in Western countries has steadily improved during the past decade (Bamiatzi, Jones, Mitchelmore, & Nikolopoulos, 2015; DeBruin, Brush, & Welter, 2006; Mattis, 2004), most entrepreneurs in the West are still males (Zhao, Seibert, & Hills, 2005). This phenomenon has led to an expansion of research exploring gender differences in entrepreneurship across different countries (Langowitz & Minniti, 2007; Sauer & Wilson, 2016; Verheul, Carree, & Thurik, 2009; Zhang et al., 2009). However, research findings examining gender differences have shown contradicting results (Langowitz & Minniti, 2007; Wilson, Kickul, & Marlino, 2007); some investigators have found gender differences in entrepreneurial intention (Moore & Buttner, 1997; Zhao, Seibert, & Hills, 2005), but others have failed to confirm such differences (Calderon, Iacovone, & Juarez, 2017; Gupta, Turban, Wasti, & Skidar, 2009). Although most Western countries perform similarly in supporting female entrepreneurship, the US performs the best on indicators of good institutional support and strong overall entrepreneurial environment support for females (Alsos & Ljunggren, 2017; Dell Report, 2013). Currently, there are 8.6 million female-led businesses in the US, generating more than \$1.3 trillion in revenues and employing nearly 8 million people (Casserly, 2013).

Grilo and Irigoyen (2005) reviewed the entrepreneurship literature of 15 EU-member countries and the USA and found that males prefer self-employment more than females do. Wilson, Marlino, and Kickul (2004) indicate that boys planning a career are more willing to involve themselves in entrepreneurial activities than are girls. Another study by Wilson et al. (2007) suggests that females in high school and university demonstrate less entrepreneurial knowledge than male students. Welter (2011) emphasized the importance of social environment, such as traditions and values, in explaining gender-specific behavior in the entrepreneurship process. Zhang et al. (2009) suggest that gender differences in entrepreneurial intentions reflect a genetic basis for entrepreneurship, with females more interested than males in running a business in specific sectors, which in turn leads to increased gender variation in entrepreneurship.

Research investigating gender in entrepreneurship has gained significant interest as it can help educators and policymakers improve the participation of females in the entrepreneurial process (Malmström, Johansson, & Wincent, 2017). Thus, the factors behind this issue have been explored from different perspectives. For example, Sullivan and Meek (2012) reviewed the literature on gender and entrepreneurship and concluded that gender is used primarily as an independent variable to explain other variables such as financial capital (Alsos, Isaksen, & Ljunggren, 2006; Boden & Nucci, 2000), discrimination in market access (Bates, 2002), success and profit (Collins-Dodd, Gordon, & Smart, 2004), and networking (Klyver & Grant, 2010).

Most previous studies on gender and entrepreneurship indicate that males display higher self-efficacy and higher risk-taking behavior than females, but show less need for entrepreneurial education (Baù, Sieger, Eddleston, & Chirico, 2017; Eddleston, Ladge, Mitteness, & Balachandra, 2016; Wilson et al., 2007). Males with an entrepreneurial family background are more likely to start their own business than females with an entrepreneurial family background (Matthews & Moser, 1996). This suggests that to improve females' participation in entrepreneurial activities, effective entrepreneurship education programmers, or appropriate counseling courses in existing business schools, are needed to promote students' success in an entrepreneurial career (Chrisman, Chua, Pearson, & Barnett, 2012). Recently, entrepreneurship education in universities has recently become more important (Wilson et al., 2004) because it provides entrepreneurial self-confidence through focused education and continuous support.

Entrepreneurship in the BRIC countries

When studying entrepreneurship activities in developing countries, it is important to explore these activities in BRIC countries in order to

understand and learn from their experience, especially given that many commonalities are shared between those two groups, which have not been well explored by previous research. In the BRICs (Brazil, Russia, India, and China), remarkable development has been driven by an entrepreneurial revolution. The demand in these economies to maintain development through balanced access to resources, knowledge, and markets places an emphasis on the importance of entrepreneurship activities. A Pew Foundation study found that most Brazilians believe that men and females should have equal rights (Pew Foundation, 2010), a result coherent with most of the research conducted in the developed countries. Nonetheless, it is noteworthy that the Pew study also revealed that 85% of the survey participants in Brazil believe that more changes are essential to ensure equality in entrepreneurship opportunity among men and females. In addition, the study indicates that 96% of Brazilians believe that a female should be permitted to work outside of the home, a percentage consistent with that in other culturally liberal countries like the US and the UK.

BRIC has become a popular acronym because these countries are identified as emerging markets with growing power and influence in the global economy. The BRICs contain more than 40% of the global population and account for 15% of the global economy (CIA, 2014), and hold about 40% of world currency reserves, with China holding the major portion. The BRIC countries are positioned in the 5th, 7th, 2nd, and 1st ranking, respectively, in the world in terms of labor force. The foregoing statistics provide a strong signal that the BRIC countries have a promising potential to participate in entrepreneurial activities and are capable of strongly influencing the future world economy (Economic Research, 2013).

The BRIC's fast economic development during the last decade has been a result of increased levels of entrepreneurial activity, especially in Brazil, India, and China. This advancement was a result of improvement in the ecosystem in different aspects, including economic, social, and cultural spheres. Many researchers worldwide are paying increased attention to the BRIC's entrepreneurial ecosystem and learning from their dynamic experience. For instance, Babson College in the US established an Overseas BRIC Program to encourage students to investigate the four emerging economies with the aim to become experts in building and managing business activities. In addition, many studies have focused on the unique characteristics of the BRIC economies. For example, Armijo and Burges (2010) argue that Brazil's economic capabilities are more significant than previously predicted. Furthermore, they suggest that Brazil's democratic transition in the mid-1980s was the foundation that helped Brazil recognize its economic and entrepreneurial capabilities among South America countries. Subsequently, Brazil was able to present itself effectively at the global level

by participating in the trade G20, the financial G20, and the BRICs club, among others.

Puffer, McCarthy, and Boisot (2010) suggest that entrepreneurs in BRIC countries encounter more uncertainty and risk than those in developed economies, which is to be expected given the unstable socio-economic environments inherent in underdeveloped formal institutions. Their findings emphasize the relationship between institutions and entrepreneurship in Russia and China; the relationship is different from those in developed economies, where entrepreneurs build distinctive equilibrium between informal and formal institutions to tolerate their environment.

To examine to what extent the institutional environments in the BRIC countries support entrepreneurship, Eunni and Manolova (2012) conducted a study on 490 business students from Brazil, Russia, India, and China to evaluate the perceived favorability of their regulatory, cognitive, and normative environments to start a new business. They found no significant differences in the perceived favorability of the regulatory institutions but found significant differences in the perceived favorability of the cognitive and normative environments. Their findings reveal that institutional environments in Russia and China are perceived as more supportive of entrepreneurship activities than those in Brazil and India. However, the normative environments in China, India, and Brazil are perceived as more encouraging. Such variations across different countries echo the wide disagreement in the BRIC countries' cultural norms and institutional structures, an issue that requires further research so as to gain a better understanding of the optimum entrepreneurial environment.

Entrepreneurship in the Middle East and KSA

Kedar (2009) states that the major factors drawing females into entrepreneurship worldwide, including in the Middle East, can be categorized into push and pull factors. The push factors include those issues that encourage a female to start her own business, while the pull factors are those positive aspects associated with owning one's own business. The main push factors include the drive for personal independence and the need to raise enough money to support one's family. The pull factors, on the other hand, refer to the forces in the environment that encourage a person to start a business. Typically, a female would have the resources, support, and talents that pull her toward setting up a given type of business; these factors empower a female and motivate her to start the business and see it through.

Sadi and Al-Ghazali (2010) examined a new dimension in the motivation of female entrepreneurs in KSA. They compared the way men view the

motivation of female entrepreneurs as compared to the way females themselves view it. They discovered that most females found certain attributes to be more important motivators than men did. The females believed that female entrepreneurship is growing because females are seeking to work independently, improve their social status, and pursue profit. Men, on the other hand, believed that females are becoming entrepreneurs because they have limited job offers and because they want to have more personal control over their lives and freedom in their endeavors. The study showed that females find female entrepreneurship to be steeped in the quest for financial independence and social status. Men, however, see female entrepreneurship as a necessity for unemployed females; they see in females a desire for the freedom they are denied in most Middle Eastern communities.

To study important features and patterns in the lives of female business owners in Saudi Arabia, Ahmad (2011a) interviewed 314 business females in four cities in KSA. He found that female entrepreneurs operate mostly in fields that offer limited opportunity and that are typical of the female gender in the region – including education of children, beauty services, and child-related services. It was discovered that most of the successful females in the KSA are married with adult youths. The lack of young females in business is a concern – the successful females are often older simply because they are not required to take care of children.

Interestingly, Ahmad (2011a) found that Saudi female entrepreneurs are well educated and highly confident, showing that they have the important skills and competency needed to succeed in business. He found that most of the females are sole proprietors rather than co-owners. Ahmad made some startling findings in the area of employment: First, most female entrepreneurs in KSA employ only a small number of people, an average of 6–19. Second, most of their employees are non-Saudi females. Third, any men who are employed are part-time workers in very specialized roles. Fourth, female entrepreneurs in KSA operate in only one city and appear to be excluded from employment elsewhere. Finally, very few of the females participate in international trade because of Saudi restriction and social taboos to travel alone, so they are unable to do business internationally.

In a follow-up study, Ahmad (2011b) identified gender bias and poor access to markets for female entrepreneurs. Another major hurdle to females' success is bureaucracy within Saudi government institutions: Most government institutions have put in place rigid and stringent requirements that most female entrepreneurs cannot meet. Additionally, bankers are reluctant to help female entrepreneurs because most of them ask for small loans with very short repayment times. In addition, tertiary educated females are restricted because the leading entrepreneurial ventures are

usually reserved for men. Ahmad (2011b) also found that blending childcare and operating a business pose a great challenge for Saudi females, given local cultural biases and restrictions. Subsequently, Danish and Smith (2012) explored the challenges facing female entrepreneurs in KSA. They observed that female entrepreneurs are now establishing and operating more small and medium-sized businesses than at any time in the past, in spite of substantial challenges, both societal and institutional.

Challenges female entrepreneurs encounter in KSA differ from those that females in the West confront. In the KSA, social discrimination in the form of gender stereotyping makes it difficult for females to succeed in creating and operating a new business. In addition, there are traditional issues steeped in cultural thought that restrict females – for example, the interaction between the genders in public is strictly regulated, fostering different levels of complexity that prevent females from creating an appropriate networking system for their benefits. Advocacy activities are also limited, and females are often left on their own with limited collective voices to further their needs in the wider business community controlled by men. Collectively, this restrictive environment results in a general lack of self-confidence among females entrepreneurs because they have been conditioned since youth to suppress their own beliefs in their own abilities (Welter, 2004).

In contrast to previous research, which focuses on exploring the challenges female entrepreneurs face *after* they start their own business, this research examines the factors that influence their decision *before* they start a business. Our study will identify key determinants that can support policymakers in preparing strategies to address the challenges confronting female entrepreneurs in KSA at the early stages of starting a business, to inspire Saudi females to explore their potential in entrepreneurship.

Theoretical foundation and hypotheses

The theory of guided preparation

Based on the assumption that entrepreneurs encounter gaps in their knowledge about the needs for starting a new business, the theory of guided preparation provides a foundation for successful entrepreneurship. This theory is built on the concept that the incorporation of tacit and explicit knowledge stemming from contextual learning activities and directed by an experienced outside agent can offer the foundation for successful entrepreneurs (Chrisman & McMullan, 2000, 2004). The collected knowledge by entrepreneurs provides the main source of competitive advantage (Chrisman, McMullan, & Hall, 2005). The explicit knowledge can be recorded and transmitted from one person to another, which means it is

readily available and easily duplicated. On the other hand, tacit knowledge is acquired from individual experience, and thus it is difficult to codify and communicate, making imitation more difficult (Berman, Down, & Hill, 2002). In starting up a business, the tacit knowledge, if utilized effectively, can offer a source of sustainable competitive advantage (Grant, 1996).

Starting up a new business differs from operating an established business because much of the explicit and tacit knowledge needed for its establishment and operation has yet to be acquired by the entrepreneur (Chrisman et al., 2005). For example, the new business requires a set of defined operating processes and a distinct plan to combine different resources. In addition, knowledge about market players and how to interact with consumers and suppliers is limited during business startups, while product concept is not well understood during the early stage of launching a business. All previous challenges require entrepreneurs to exploit existing knowledge and resources and seek additional knowledge when they are in need. Of course, in this case, the supporting environment plays a significant role in helping entrepreneurs acquire adequate knowledge and proper support in order to launch and operate their business successfully.

The theory of guided preparation suggests that an experienced agent could guide entrepreneurs' endeavors in the right direction by providing adequate knowledge and training to develop the new business, to make the entrepreneurial endeavor more effective (Chrisman et al., 2005). Therefore, it is obvious that preparation without guidance is not the best approach to building a successful business. In this regard, guided preparation helps entrepreneurs define the requirements for their business and how to combine resources and at which stage to do so. For example, supporting entrepreneurs in writing a good business plan would teach them the importance of each element in the business, how to build up each element over time, and the right time to link elements. The knowledge gap encountered by entrepreneurs should be defined to provide the required knowledge to fill up this shortage and prepare entrepreneurs to have all that is needed to build and operate a new business.

Hypotheses

After an intensive review of the literature on female entrepreneurs across the West and developing countries, and in KSA in particular, the research model shown in Figure 1 was proposed to examine the factors influencing the decision of Saudi university female students to become entrepreneurs (Dabic, Daim, Bayraktaroglu, Novak, & Basic, 2012). In this model, the dependent variable *Entrepreneurship Intention* (Haus, Steinmetz, Isidor, & Kabst, 2013), which is a binary variable, has two values: (1) "Yes, I am

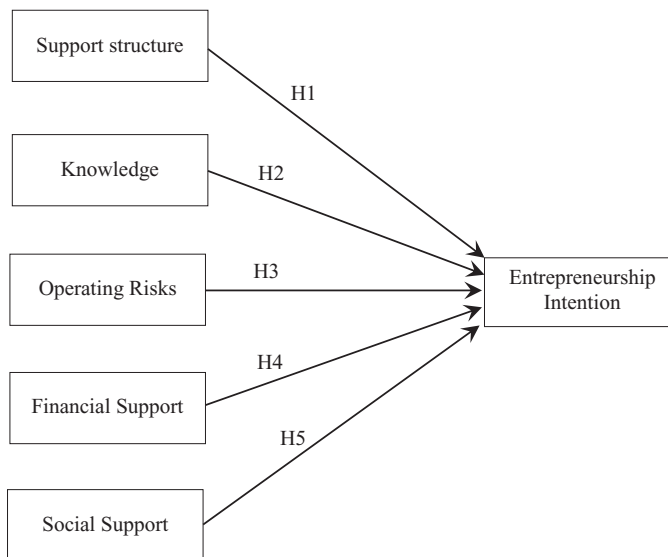


Figure 1. Theoretical model that predicts entrepreneurship intention.

planning to start up my own business,” and (2) “No, I have no plan to start up a business.” Five independent variables are also included in the model: support structure, knowledge, operating risks, financial support, and social support. These variables represent diverse aspects that reflect the KSA environment to a large extent and were used in previous empirical research (Jamali, 2009; Javadian & Singh, 2012; Pruett, Shinnar, Toney, Llopis, & Fox, 2009). Previous research has demonstrated that business creation intention models can explain conventional entrepreneurship processes (Boyd & Vozikis, 1994; van Gelderen et al., 2008) because they focus on exploring the relationship between personal antecedents and entrepreneurial intentions. Moreover, entrepreneurial events model (Shapero, 1982) proposes that entrepreneurial intentions can be turned into action when entrepreneurs move to the business establishment stage.

Support structure from the government

Female entrepreneurs are supporting their own country by decrease the unemployment rate by producing potential job opportunities for themselves and others (Webb, 2003). However, their progress so far has met with great challenges, especially relating to their educational, social, training and experience backgrounds across KSA. Generally, governments in Middle East countries have been hesitant to launch essential programs focused on females’ empowerment, thus providing limited resources to the development of females and abandoning them to be left alone in the process of starting up a business (Dechant & Al Lamky, 2005). To attain the same level as men in entrepreneurship, they should be given appropriate help by

their respective governments (Allen & Truman, 1993; Welter, Xheneti, & Smallbone, 2018).

The KSA government has minimal focused programs for educating females to start up a business, thereby refuting them an opportunity to acquire the economic and technological talents required in business. Training programs and support when needed are essential for most females to develop the required skills to start a business (Itani, Sidani, & Baalbaki, 2011). These programs can be used as a reference point to ensure that females have all the essential elements in terms of skills and legal advice to build a successful business (Baughn, Chua, & Neupert, 2006). Danish and Smith (2012) concluded that bureaucracy and complicated procedures represent the major challenge female entrepreneurs encounter in KSA. Having supporting programs in place, therefore, is expected to provide more incentive to start a business.

H1: The likelihood of female entrepreneurial intention is positively related to support structure.

Knowledge and training

Female education across the Middle East countries is not granted the priority it requires; thus, many females do not have needed skills to initiate and operate businesses (Grey, 2010). Lack of education impedes them from obtaining capital since they are not able to collect reliable information on financial issues, and impedes them from utilizing their potential (Jack & Anderson, 2002). Lack of adequate training has created lots of hardships for females when it comes to entrepreneurship (Baron, 2004; Minkus-McKenna, 2009; Talukdar, 2015). Jamali (2009) identifies the problems female entrepreneurs face at different economic dimensions. For instance, at the micro-level, there are opportunity problems that are due to lack of education and limited work experience. Enhancing the business knowledge of females, therefore, will encourage them to launch their own business (Hechavarria, Bullough, Brush, & Edelman, 2019; Shane, 2000).

H2: The likelihood of female entrepreneurial intention is positively related to enhanced knowledge.

Operation risks

Females are globally known to work hard and have the requisite determination to accomplish their jobs well, but they lack the commercial skills for entrepreneurship that many men enjoy. Their confidence level is thought to be lower than that of men, and this lack of confidence renders them defenseless to discrimination (El Mahdi, 2006; Grey, 2010). For

females to realize the same level of success as men in the business domain, they have to experience business activities and be given help by their respective governments (Allen & Truman, 1993). Training on managerial patterns fitted to females is also desired for their entrepreneurial conquest (Itani et al., 2011). Western Females lean to use a cooperative approach of leadership while men use an authoritative approach that is thought to contribute to their success in managing businesses across the western world (CIBS Small Business, 2004). In the context of managing a business, operation risks are expected to create a strong barrier to initiating a business.

H3: Operation risks are negatively associated with the likelihood of female entrepreneurial intention.

Financial support

Welter and Kolb (2006) proposed that if females were given the help they need to start up a business, they would apply innovation to make necessary changes to the entire economy. In practice, however, females and men do not enjoy equal opportunity in entrepreneurship. The challenges to entrepreneurship are the same for men and females (Dechant & Al Lamky, 2005), but they are more significant for females, especially in the Middle East, where females entrepreneurs encounter discrimination in the process of starting businesses (Leila, 1992). Some studies have demonstrated that most females are incapable to get funds from banks and other monetary establishments, restricting their ability to become entrepreneurs (Smith-Hunter, 2006). Brush, Carter, Gatewood, Greene, and Hart (2006) declare that procedures used for credit scoring discriminate against females and make them incompetent to access capital.

In fact, many Saudi female entrepreneurs depend mainly on capital from their own savings, family assistance and small loans from banks. There are also firm procedures that hinder them from obtaining proper capital from banks and this is one of the difficulties that the Saudi government ought to resolve (Ahmad, 2011b). This discourages females with a strong passion to start the business since the only fund they can afford is inadequate to initiate a business that is sustainable in the long term. Danish and Smith (2012) found that access to loans and grants is the second major challenge female entrepreneurs face in KSA. Therefore, providing access to financial support will increase female incentives to start up a business.

H4: The likelihood of female entrepreneurial intention is positively associated with accessing financial support.

Social support

In KSA, a female's social responsibility has been considered as that of a wife and a mother. She faces social rejection in other areas of development and this elimination has mostly contributed to her being sidelined as a contributor in country development. Culture and tradition in KSA verbalize that females should not run a business and those who try to endeavor into business face many confronts. They are also not permitted to communicate with males who are not part of the nearby family circle. However, it is not possible to do business without interacting with various people (Ahmad, 2011a). They receive little support from other females, and the surrounding community resists their engagement in business (Jamali, 2009). Lack of support creeps in as a result of the culture of privacy: they are not encouraged to share their personal problems with others. These aspects have steered the female entrepreneurs in KSA to start new businesses in the name of a man in their close family (husband, father, brother or son); they do this to prevent their businesses breaching local cultural taboos and rules (Minkus-McKenna, 2009).

Cultural values and absence of social networks and inspiration have influenced the public opinion that females should not be encouraged to be independent in business world (Birley, 1989). Females were not allowed to start businesses without a male representative who would be the one to contract with legal entities and comply with regulations. Females in KSA face more obstacles to success than their counterparts in other countries because of the cultural biases and policies. For example, the only country where females cannot drive a car is KSA (Charmes, 2003). These conditions complicate and impede the decision to open a business.

H5: The likelihood of female entrepreneurial intention is negatively associated with lack of social support.

Methodology

This research is focused on identifying the factors influencing the decision of female university students to start a business after graduation. Our study was carried out by sending a survey to different universities and colleges in KSA. The survey employed a structured questionnaire that was used previously to explore entrepreneurship intention of university students across different countries (Pruett et al., 2009). The [Appendix](#) contains the survey. Each independent variable consists of four measurement items; each item is measured using the five-point Likert scale. The questionnaire was disseminated through hand-delivery to university female students at six universities in the eastern province, and participants were asked to return completed surveys to a special office. From this office, responses were

collected daily over a ten-day period. The usable sample contained 507 surveys – 32 surveys were dropped because they were not fully completed.

Non-response bias

One way of testing for non-response bias is to compare the mean response of the first and last quartile of respondents (Armstrong & Overton, 1977). This approach assumes that late respondents are more likely to share characteristics with non-respondents. This issue was a concern for the study because students returned the survey over a 10-day period. Therefore, the date of collecting each group of surveys was recorded. This record allows evaluating non-response bias by comparing the answers of early respondents (25% of the sample) with those of late respondents (25% of the sample). A comparison of the two groups demonstrates no significant differences in demographic variables, and no significant difference has emerged between these two groups across the independent variables included in the model, thereby mitigating any concerns about non-response bias.

Variable validity

To ensure the validity of the study variables, internal consistency validity is checked. The reliability analysis of measurement items for all independent variables reveals a good level of internal consistency, as shown in Table 1. Then, correlations of all pairs of measurement items of each variable were calculated. An inspection of the inter-item correlation matrix demonstrates that all correlations have moderate magnitude, confirming that measurement items for different independent variables are not correlated in a problematic matter.

Factor analysis

A factor analysis was conducted to establish the authenticity of independent variables and their role in our hypothesized model. Five factors were extracted, representing the five independent variables in the proposed model, as shown in Table 2, where values greater than 0.60 represent the factor loadings of each group of measurement items (Bagozzi & Yi, 1988).

The high loading of measurement items (related to the same variable) to a specific factor indicates high convergent validity. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.796, implying that the data produce distinct and reliable factors. The discriminant validity is tested by running the factor analysis with oblique rotation to obtain the correlation between factors. A low correlation (>0.5) between

Table 1. Reliability analysis of measurement items.

Independent variables and measurement items	Cronbach's alpha	Corrected item-total correlation
Support structure	0.783	
Support structure_1		0.653
Support structure_2		0.674
Support structure_3		0.674
Support structure_4		0.698
Knowledge	0.851	
Knowledge_1		0.682
Knowledge_2		0.761
Knowledge_3		0.678
Knowledge_4		0.686
Operating risks	0.875	
Operating risks_1		0.724
Operating risks_2		0.753
Operating risks_3		0.728
Operating risks_4		0.659
Financial support	0.832	
Financial support_1		0.714
Financial support_2		0.670
Financial support_3		0.714
Financial support_4		0.744
Social support	0.857	
Social support_1		0.74
Social support_2		0.760
Social support_3		0.743
Social support_4		0.732

Table 2. Factor analysis – rotated factor matrix.

Measurement items	Factor				
	1	2	3	4	5
Support structure_1	0.741	0.080	0.213	0.185	0.004
Support structure_2	0.907	0.116	0.154	0.160	-0.003
Support structure_3	0.698	0.167	0.149	0.215	-0.048
Support structure_4	0.725	0.051	0.052	0.170	-0.070
Knowledge_1	0.325	0.173	0.107	0.629	-0.039
Knowledge_2	0.143	0.072	0.058	0.872	-0.098
Knowledge_3	0.286	0.034	0.132	0.578	-0.093
Knowledge_4	0.233	0.092	0.078	0.642	-0.087
Operating risks_1	0.206	0.111	0.855	0.022	-0.033
Operating risks_2	0.165	0.115	0.828	0.122	-0.052
Operating risks_3	0.102	0.021	0.775	0.123	0.028
Operating risks_4	0.243	0.124	0.845	0.012	-0.023
Financial support_1	0.128	0.732	0.051	0.111	0.130
Financial support_2	0.028	0.754	0.065	-0.033	-0.008
Financial support_3	0.106	0.818	0.006	0.060	0.085
Financial support_4	0.097	0.693	0.121	0.127	-0.036
Social support_1	0.026	0.040	0.015	0.017	0.732
Social support_2	-0.070	0.081	-0.050	-0.135	0.735
Social Support_3	-0.056	0.013	-0.011	-0.075	0.745
Social Support_4	0.015	0.032	0.016	0.019	0.692

Extraction method: principal axis factoring. Rotation method: Varimax with Kaiser normalization. Rotation converged in 6 iterations.

factors indicates that the two factors have not overlapped conceptually (Bagozzi, Yi, & Phillips, 1991). The factor correlation matrix demonstrates high discriminant validity.

Logistic regression

Since the dependent variable “Entrepreneurship Intention” is a binary variable, the logistic regression model was applied. This model was selected because it does not require normality distributed variables and has sufficient statistics associated with the independent variables. Logistic regression allows the examination of the influence of many variables at once.

Results

Descriptive statistics

The descriptive statistics of demographic variables show that 52% of participants are in the second year of their university education, and 58 and 30% in the third and fourth year, respectively. The majority of participants are age 20–22 years, 7% are age 19, and the remaining 20% are older than 22. In addition, 88% of the participants are single, and 12% are married. Of those who are married, 7% have one child or more. Only 29% of participants indicated that they have worked already. The period of working ranged from 1 month to 29 months, but most of them have worked for only 4 months or less. Table 3 shows the correlation matrix and descriptive statistics of measures. Close inspection of this matrix indicates that there is low to moderate correlation among independent variables.

Logistic regression

Table 4 shows the findings of the logistic regression analysis. A statistically significant χ^2 value for the model ($p < .000$) and a non-significant H-L test ($\chi^2 = 1.53$, $p = .959$) indicate a strong fit between the model and the data.

Table 3. Correlation matrix and descriptive statistics of measures.

Variable	1	2	3	4	5
1. Support structure	1.000				
2. Knowledge	0.244*	1.000			
3. Operating Risks	0.356*	0.184*	1.000		
4. Financial Support	0.079**	0.092*	0.047	1.000	
5. Social Support	0.396*	0.195*	0.261*	−0.164*	1.000
Mean	3.800	3.985	3.638	3.755	3.520
SD	0.739	0.984	0.896	0.704	0.690

Notes: * $p < .05$; ** $p < .01$.

Table 4. Results of maximum-likelihood logistic regression analysis.

	B	S.E	Wald	Sig	Odds ratio
Support Structure	1.355	0.540	6.292	0.012	3.877
Knowledge	2.023	0.512	12.732	0.000	5.345
Operating Risks	−0.123	0.538	0.052	0.819	0.884
Financial Support	1.012	0.484	4.374	0.036	2.752
Social Support	0.685	0.471	2.116	0.146	1.984

The Nagelkerke R^2 of 0.78 suggests that the model explains 78% of variability in entrepreneurship intention. Further, the classification table demonstrates a high overall correct prediction rate of 89% of the cases, indicating strong model validity in predicting entrepreneurship intention.

The Wald statistics associated with the parameter estimates for the individual independent variables show that three of the five variables are statistically significant ($p < .05$). Operating risks and social support are the variables that do not significantly influence the likelihood of entrepreneurship intention. The odds ratio indicates the relative importance of each independent variable. For example, after controlling for the effect of all other variables, the odds of entrepreneurship intention is 5.345 times for having the required knowledge to start up a business, and the corresponding probability of entrepreneurship intention is $5.345/(1 + 5.345) = 0.84$.

Discussion

It is apparent from our research results that the first hypothesis is supported, where the support structure provided by the government is an important factor in helping university female students start a new business (Muntean, 2013). This is demonstrated by formal government policy to create an appropriate environment that supports females with resources to assess business feasibility and legal counseling, all of which are required at each stage in starting a new business (Itani et al., 2011). Otherwise, females are left alone to struggle in finding the right dynamics to create a successful business. To achieve a proper supporting structure, the Saudi government can continue to create special female development programs to support those who need help (Alturki & Braswell, 2010). Such programs can be designed for females only to preserve the cultural issues of mixing genders.

The second hypothesis is also supported, which indicates that having the right knowledge to start up a business is the most significant factor for success. This is consistent with recent findings from (Johansen, 2013), where he found a positive correlation between entrepreneurship education and the ability to start a business. In fact, this is realistic because without knowing about a subject one cannot explore it accurately. Knowledge represents the skills and experience needed to start assembling all required resources to meet the market opportunity. Such knowledge includes personal abilities to analyze the market and decide when to enter it, and, if one enters, how to move forward. This factor can be enhanced by taking specialized courses in entrepreneurship at university or by participating in workshops focusing on initiating a small business. When females gather suitable knowledge about establishing a business, their confidence level and motivation increase substantially (El Mahdi, 2006).

The third hypothesis, operating risks factor, is not significant in predicting females' intentions about business, perhaps because females are not yet fully aware of the real challenges they face after starting a business. This lack of knowledge about future challenges could be a result of their focus on the main challenge, which is initiating the business, and what comes up later becomes the next challenge but not an urgent one. Nonetheless, if not managed carefully this factor could lead to undesirable consequences in the future (Itani et al., 2011). It is believed that addressing the first two factors could reduce the adverse effects of this factor in the long term, although it is not a significant short-term factor for female entrepreneurs. Nonetheless, Danish and Smith (2012) find that managing the business is considered as a minor challenge for female entrepreneurs in KSA.

The fourth hypothesis, financial support, is a significant predictor of the intention to initiate a business (Brush, Carter, Greene, Hart, & Gatewood, 2002). It is obvious that financial support is essential to ensure that a promising opportunity, once found, can be transformed into a real business. No doubt, insufficient financial support or any procedures discriminatory to getting this support will negatively impact a female's intention to become an entrepreneur. However, it is obvious that support structure and knowledge factors are important to ensure that females have the required information to access and apply for the financial support they need to turn their ideas into reality. Although financial support is a significant factor and ranked number three in this study, this finding provides a different perspective to that in other studies which have emphasized that raising finance is the most significant challenge to female entrepreneurs (Orhan, 2001; Robb & Coleman, 2010).

The last factor, social support, which is the fifth hypothesis, is not significant in predicting female entrepreneurship intention. This could be due to the fact that an unsupportive environment, such as unsupportive family, friends, and relatives, does not impact the decision to start one's own business, so long as the person feels she can pursue it. Females seem more focused on the direct factors that will influence pursuing their business directly and seem less concerned about the additional complementary factors such as encouragement from relatives. Such social support can, however, be motivated in reducing other obstacles.

It is believed that females in KSA are aware of the cultural impediments that surround them, including the view of a female's responsibility as that of wife and mother, and of not initiating a private business (Ahmad, 2011a). When they decide to explore an opportunity, females pay less attention to the discouraging support from neighboring individuals. In this regard, the sociocultural institutions can play a significant role in changing cultural beliefs to empower females with proper skills, education, and

business opportunities (Birley, 1989). When the societal forces demonstrate a strong commitment to support female entrepreneurs, it can compensate for the lack of social support by the local community and close relatives (Baughn et al., 2006).

Conclusion

This study demonstrates that having adequate business knowledge can significantly help Saudi females make a timely decision to start up a new business. The structure support provided by the Saudi government is also critical, and the Saudi government needs to promote and launch appropriate programs to address challenges faced by female entrepreneurs. Financial support is seen by females as an equally essential factor to turn their dreams into reality. These three factors play a major role in encouraging university female students to become entrepreneurs, and the KSA government needs, therefore, to invest in this initiative.

In general, the main factors that female entrepreneurs face in the Middle East countries include unclear regulations about females' businesses, discriminatory practices, outdated conventions, and prejudiced mindsets (Etim & Iwu, 2019). Female entrepreneurs face bureaucratic hurdles that require more from them than from their male entrepreneurs. In addition, financial institutions are reluctant to provide adequate capital support to females. It is recommended that female groups encourage networking, advocacy, and training focused on female entrepreneurship. Financial institutions should also be required to be more helpful to support females.

Recommendations and future research

Findings from our research support results found in other similar studies, where female entrepreneurs continue to encounter an array of challenges that have no single resolution. Several recommendations can be proposed from this study to reduce the negative impact of those challenges. First, the government and other business supporting organizations need to establish special programs to increase females' awareness about business management. These programs are required to build general entrepreneurship skills in a range of relevant subjects that would provide essential knowledge for both business startup and operation activities. Such programs should be widely publicized, so the majority of females become aware of their availability and value. These programs can play a critical function by organizing special events and seminars, in which females role models and business mentors are invited, to provide practical insights into starting up a business.

Second, there is a need to create a supporting institutional framework in collaboration with the chamber of commerce, in order to help in identifying business opportunities that fit females' needs across different sectors of economy. On the other side, this institutional framework will deliver the ability of network building to pave the road for the entry of females into more diversified types of businesses. Third, the government needs continuously to collect reliable information about the real number of female entrepreneurs who have actually started a business and are actually operating it. Such data collection can track the number of successful startup businesses and the challenges they face during the operation stage.

Findings from this study will support ground for investigators to focus their future research to areas that have not been examined, in order to help depict the weaknesses that have hampered female business growth and development. One topic that requires immediate attention is to investigate if there are any differences in the type of challenges encountered by females and males in KSA, during the intention to establish a new business. If significant differences were discovered for both genders, then the government approach to address the challenges of each gender would involve careful consideration, to ensure equal treatment and support for both genders.

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Appendix

Questionnaire

Section 1:

In which study year you are now? First Second Third Fourth

Your age: _____ (years)

Your gender: Male Female

Are you married? Yes No

Do you have kids? Yes No If yes, how many? _____

Did you work before in any business? Yes No

If yes, for how many years and months? _____

Section 2:

Do you have the intention to start your own business?

- No, I have no plan to start up a business
- Yes, I am planning to start up my own business

How the following factors can impact your decision to start up a business after finishing university:

(The answer is based on five point Likert-scale from strongly agree to strongly disagree)

1. Support structure

- Assistance to assess business feasibility
- Available assistance (when needed)
- Formal help from government
- Legal aid/counseling

2. Knowledge

- Knowledge about starting a business
- Experience in management and accounting to run the business
- Strong personal abilities
- Knowledge of the business world (assessing market opportunities)

3. Operating risks

- Solving problems with employees
- Building relationship with other businesses
- Team development and management
- Working too many hours

4. Financial Support

- Access financial support from bank
- Government financial support programs to start up a new business
- Available financial resources to support new university graduates
- No discrimination procedures within banks to support female-run small businesses

5. Social support

- Lack of support from people around me
- My family is not supportive of me in building my own business
- My culture is not supportive of me and my business undertakings
- Lack of regular networking to gain information for my business