TOWARD A FEMALE ENTREPRENEURSHIP EDUCATION CURRICULUM IN SAUDI ARABIA

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ABSTRACT

Despite the recent surge in female entrepreneurship in Saudi Arabia, there is a clear lack of scholarship around female entrepreneurship education (FEE) curriculum development. This paper shares qualitative insights from 10 Saudi female entrepreneurs gleaned from focused interviews. A content analysis (90% intercoder reliability) revealed lessons learned for what a female-oriented and -informed entrepreneurship education curriculum would look like in Saudi Arabia. Findings indicate that FEE curricula should include seven overarching elements, all informed by awareness of multi-faceted gendered issues: business, financing, networking, government support, cultural influence, thinking (e.g., creative, critical, lateral, design, etc.), and gender dominance and sensitivity (especially gaining independence from male authority). The paper concludes with a proposed blueprint for ensuring that Saudi FEE becomes a reality from a gendered perspective.

Keywords: Saudi Women, Female Entrepreneurship, Entrepreneurship Education, Female Entrepreneurship Curriculum, Gender Sensitivity.

INTRODUCTION

The Kingdom of Saudi Arabia (KSA) is currently on the threshold of an economic tectonic shift that will unlock the full potential of its competitive advantages. With Vision 2030 (its recent national development plan), the country has a clear roadmap for fulfilling its potential. Vision 2030 declares that "*our economy will provide opportunities for everyone – men and women, young and old – so they may contribute to the best of their abilities*" (KSA, 2016). Important to this paper about female entrepreneurship education (FEE), the vision states that "*Saudi women are yet another great asset. With over 50 percent of our university graduates being female, we will continue to develop their talents, invest in their productive capabilities and enable them to strengthen their future and contribute to the development of our society and economy*" (KSA, 2016).

Vision 2030 is based on three themes; the first focuses on opportunities, as described above, while the second is a thriving economy, which involves "*creating economic opportunities for the entrepreneur and ambitious future*" (KSA, 2016). Indeed, in 2016, the government established the General Authority for Small and Medium Enterprises (SMEs) called

"*Monsha'at*" (منشاءات). This authority is charged with bolstering the SME sector of the Saudi economy by promoting "*the cultural and spirit of entrepreneurship and innovation*" (Monshaat, 2019). The government views the SME sector as the most important engine of economic growth in Saudi Arabia aspiring to increase its contributions to the Gross Domestic Product (GDP) from 20% to 35% by 2030.

Saudi Arabia has been a gender segregated country for many years (Moghadam, 2003; Alsubaie & Jones, 2017). A 2015 PwC Middle East report (with a man on the cover) of how to conduct business in Saudi Arabia (laws and taxes) does not contain the word women. In 2016, a year after the report, the government is now actively pushing for women in the workforce, because it feels the economy needs women. This is a powerful political and social statement. The mere presence of women in Saudi's business world is a valuable innovation. This policy position warrants the development of higher education (HE) curriculum to foster female entrepreneurship. Also, if effective education and training will help female Saudi entrepreneurs raise the GDP (Monshaat, 2019), it behooves Saudi HE institutions to develop and deliver FEE. The government wants both men and women to participate and make the economy stronger, so it can shift from an oil-dependent to knowledge-based economy (KSA, 2016). Formal education for female entrepreneurs would make their contribution to Saudi's economy even more significant.

The promotion of female entrepreneurship will involve creating an environment that empowers businesswomen (KSA, 2016). This effort is needed, as Saudi women entrepreneurs accounted for 39% of SMEs in KSA in 2019. This number is rapidly edging toward 50%, given that their percentage of the economy is up 35% over the last 10 years (AlMunajjed, 2019). Indeed, 42% of Saudi women are in the process of starting up a business (called the total early-stage entrepreneurship activity – TEA) (Cetindamar et al., 2019). In 2018, there were almost 100,000 commercial registers held in the name of Saudi businesswomen (AlMunajjed, 2019).

Having more female-run businesses in KSA means more opportunities to create jobs, stimulate employment and diversify the economy. This large talent pool is a "*massive resource [for Saudi Arabia and a key] impetus for prosperity*" (AlMunajjed, 2019). Through their businesses, women entrepreneurs make a difference in their community and the nation (AlMunajjed, 2019; Bullough et al., 2015). Saudi female entrepreneurs tend to be motivated and determined, and they appreciate the need to be competitive. Right now, they are mainly in the service sector but are also active in professional services and commerce. Respectively, they operate small service sector niche businesses in fashion, clothing, cosmetics, jewellery, interior design, and art. They contribute to education, exhibition organization, public relations (PR), marketing, and event management. And, like men, they engage in commerce related to information and communication technology (ICT), real estate, restaurants, manufacturing, and tourism (AlMunajjed, 2019).

Crown Prince Mohammed bin Salman's rise to power gives modern Saudi Women an opportunity for empowerment. For instance, the concept of male guardianship created in 1979 under the influence of Ulama (The Council of Religious Elite) (Bligh, 1985) is now under review as is gender segregation. Both affect Saudi women's mobility (freedom to travel) and social mobility (ability to change in social status). Lack of mobility strongly affects their empowerment. These and other changes are paving the way for a more positive context that empowers women (female entrepreneurs included) ("*Crown Prince Mohammed,*" 2020). Women's success in the Saudi business world will serve to inspire the next generation thereby perpetuating female entrepreneurship in Saudi Arabia. Also, the respect gained in their

community lubricates momentum for other Saudi women to become entrepreneurs (see Bullough et al., 2015).

Westhead & Solesvik (2016) also made a case for female-focused Entrepreneurship Education (EE). Jones (2014) maintained that EE must be created from a position of valuing the feminine sphere. Such a strategy lessens the chance of Saudi women entrepreneurs being under resourced, under productive and inexperienced (Moremong-Nganunu et al., 2018). And, using the information gleaned from this study better ensures an evidence-based FEE curriculum (Vasconi, 2019).

As previously mentioned, women's education in Saudi Arabia is a relatively recent phenomenon with education to nourish younger females' minds in the field of business and entrepreneurship yet to begin or develop. For example, the discipline of Business Studies, offered in the United Kingdom (UK) to students aged 16– 8, is only available in international schools in Saudi Arabia. A recent online search for job opportunities for Business Studies teachers in Saudi Arabia revealed a demand in various Saudi locations: Riyadh, Jeddah, Al Kharj, Unaizah, Al Nammas, Al Majmah, Al Wajh, and Wadi Al Dawaser. These positions were for teaching college students aged 18+. This development indicates that Saudi colleges have begun to realize the importance of providing business and vocational education to its younger population, not only in major cities, but also remote areas, such as Al Majmah.

A plethora of research and literature has been produced about Saudi women entrepreneurship. This cadre of research includes both (a) women entrepreneurs (WEs) and their impact on the socioeconomic well-being of the country and (b) the obstacles and opportunities faced by Saudi WEs (Ahmad, 2011; Al-Kwifi et al., 2019; Almobaireek & Manolova, 2013; Basaffar et al., 2018; Rahatullah, 2017). "*New successful Saudi women entrepreneurs are revitalizing and boosting the Saudi economy*" (AlMunajjed, 2019).

However, scholarship about HE curriculum development associated with bolstering this phenomenon in Saudi Arabia is lacking. This paper addressed this gap by highlighting the voices of Saudi female entrepreneurs who had the wherewithal and lived experiences to participate in related discussions. The study was especially inspired by comments from Saudi HE female cooperative education (Co-Op) students who attended workshops on the topic conducted by a mega petrochemical company in Saudi Arabia (one of the authors also attended the workshops). Students in attendance raised concerns about curriculum development, teaching and learning within the Saudi HE system as these pertain to FEE. They found it perturbing that any generic entrepreneurship education is not specifically designed for and does not cater for Saudi females.

Respecting their concerns, this paper is an attempt to address the research gap around the impact of gender on Saudi entrepreneurship education by examining various aspects of the situation, including government efforts, funding, family support, networking, gender sensitivity, education and training needs, enabling/disenabling environments, and technology with a particular focus on what an FEE curriculum might look like. We realized how much a FEE curriculum was needed when many of these Co-op students pointed out Saudi universities' lack of focus on FEE.

Indeed, research affirms that most Saudi entrepreneurship education for women happens outside the formal university setting (Azim & Hariri, 2018). Azim & Hariri (2018) observed that Saudi universities are producing female graduates to satisfy conventional job market needs (e.g., government jobs in health and education) but not entrepreneurial needs, as recently envisioned in Vision 2030. Specialized education for future WEs is almost non-existent in Saudi Arabia. What does exist takes place in the form of workshops and seminars rather than formalized university

curricula. These informal education efforts do not guarantee success from the entrepreneurial experience, nor can women be assured they can access professional development (PD) to sustain what they have learned.

Despite this lack of HE opportunity, entrepreneurship activities among Saudi women became quite popular after the release of Vision 2030 in 2016 (KSA, 2016). This paper highlights the experiences of several Saudi female entrepreneurs and thus generates insights into specific areas of interest that can be used to inform curriculum development. Their on-the-ground insights can be used to help design Saudi FEE curricula, much like Bullough et al., (2015) used similar experiences to create a framework for FEE effectiveness.

The paper begins with an introduction to and overview of the demand for female entrepreneurship education (FEE) in the Saudi context. To that end, three bodies of literature were reviewed: (a) the Saudi context, (b) The KSA's entrepreneurship compared with other countries in the region (c) and entrepreneurship education and gender. The method and findings sections are followed with recommendations for Saudi FEE curricular content. The paper wraps up with a proposed blueprint for ensuring that Saudi FEE can become a reality from a gender-sensitive perspective.

LITERATURE REVIEW

The Saudi Arabian Context

In Modernizing Women, Moghadam (2003) describes Saudi Arabia as an example of a Middle Eastern country where patriarchal gender has a distinctively prominent status and female participation in the paid labor force has traditionally been discouraged. Despite the release of Vision 2030 and its focus on women's education and entrepreneurship, Saudi Arabia is currently gender segregated. To both improve the quality of education and educate for jobs, gender sensitivity must be addressed, so that educational systems can meet the specific needs of girls and women. Being gender sensitive requires being gender aware, which refers to being analytical and critical when it comes to understanding how gender shapes the role of women and men in society and then acting accordingly (UNESCO, 2014). To illustrate gender insensitivity, as Saudi female students acquire and apply their analytical skills, they do so while encountering stereotypical messages of female traditional roles reinforced in mass media that may "*deny women opportunities for full and equal participation in society*" (Roudi-Fahimi & Moghadam, 2006).

Saudi women can now obtain a driver's license and drive a car. They can vote and be elected and appointed to political office. They are now allowed access to government services, especially education, without the need for a male guardian's consent. They can apply for passports, travel and leave the country without permission from and/or the accompaniment of a male relative. Applications for business registration can now be done online instead of depending on male family members to go to the authority in their stead (Specia, 2019). At the 2019 G20 meeting, Saudi Arabia participated in the women empowerment initiative focused on narrowing the pay gap and supporting women's participation in SMEs (Kane, 2019).

When Fatany's (2013) Modernizing Saudi Arabia was published, the major concerns espoused by Saudi women, especially women activists, were women driving, the guardianship rule, segregation laws, job opportunities, and judicial restrictions. Several of these issues have since been addressed leading to the changing economic role of Saudi women. Recently, Abdul Latif Jameel (2018), a Middle East trading business, identified key changes in the social,

political, cultural and economic roles of women in Saudi Arabia that often come with implications. Three such changes include (a) being able to both vote and run-in municipal elections for the first time in 2015, (b) an emerging attitudinal shift among female employees who feel more (73%) at ease when working with their male counterparts, and (c) the new reality of more women than men enrolled in universities. Entrepreneurship brings financial independence. In some developed countries, once women gain financial independence, their civil and political rights often follow.

Saudi Female Entrepreneurship Compared with Neighboring Countries

The Global Entrepreneurship Monitor's (GEM) (2020) Middle East and the North Africa Report 2020 was consulted to compare the presence of female entrepreneurs in Saudi Arabia with that in other countries in the Middle East and North Africa (MENA) region. The total early-stage entrepreneurial activity (TEA) rate measures the percentage of the population in the process of starting or who have just started a business. Table 1 reveals that Madagascar topped the chart amongst twelveMENA countries with female entrepreneurs. The KSA and Qatar came second, followed by United Arab Emirates (UAE), Israel, and South Africa. Egypt had the lowest female TEA rate (see also Cetindamar et al., 2019). When comparing with GEM (2017), Lebanon is no longer on the chart in GEM (2020).

	Female TEA Rate (as % of adult female population)	Male TEA Rate (as % of adult male population)	Female to Male Ratio
Table 1 **TOTAL EARLY-STAGE ENTREPRENEURIAL ACTIVITY (TEA) RATES BY GENDER IN MIDDLE EAST AND NORTH AFRICA (MENA) COUNTRIES. SOURCE: GLOBAL ENTREPRENEURSHIP MONITOR (GEM) 2020**			
Madagascar	19.6	19.3	1.02
Saudi Arabia	14.7	13.4	1.10
Qatar	14.7	14.7	1.00
United Arab Emirates	12.6	18.0	0.70
Israel	10.4	15.1	0.69
South Africa	10.2	11.4	0.89
Iran	8.2	13.1	0.63
Morocco	7.8	15.1	0.52
Jordan	6.8	11.4	0.60
Oman	5.8	8.1	0.72
Tunisia (2015)	5.3	15.0	0.35
Egypt	4.1	9.2	0.45

Although these twelve countries are in the same region, each has unique cultural and social norms as well as economic and business environments. When GEM created its 2017 summary MENA Report, it divided countries into a "*resource-rich, labor-importing group*" (Qatar, the KSA, and the UAE) and a "*resource-poor group*" (Egypt, Jordan, Lebanon, Morocco, and Tunisia). GEM (2020) showed gender parity was positive in Madagascar, the KSA and Qatar, which is evident in the high female to male ratio (see Table 1). In other words, there was an average of at least ten women entrepreneurs for every 10 male entrepreneurs in these three countries. GEM (2020) affirms, "*in 2019 there are three GEM-participating economies where the female rate exceeds the male rate (Saudi Arabia, Qatar and Madagascar)*".

The National Experts Survey in the GEM (2017) MENA report captured nine Entrepreneurial Framework Conditions (EFCs) that reflect whether a country provides an

underlying foundation of basic requirements and efficiency enhancers for entrepreneurship. "*The countries with the most enabling entrepreneurial frameworks are the United Arab Emirates and Qatar... [Both countries] diverge strongly from the regional norm with regard to government entrepreneurship programs... The United Arab Emirates, Qatar and Lebanon [score high in school-level entrepreneurship education] ... Qatar and Lebanon also rate their post-school entrepreneurship education positively*" (GEM, 2017).

To elaborate, Qatar enables entrepreneurship by using such enablers as numerous institutions that foster SMEs and entrepreneurship, incubators and economic free zones, universities that offer entrepreneurship programs clustered together at "*Education City,*" and various initiatives that encourage entrepreneurship such as Enterprise Challenge (held annually) (GEM, 2017). As for Saudi Arabia, GEM (2020) reported that initiative and policies were developed and implemented in Saudi Arabia during 2019. The aim was to aid women's empowerment by "*supporting women's participation in small business. ...Trends in policy and regulation have had positive impacts on entrepreneurship in Saudi Arabia*". In contrast to the report of GEM (2017), which stated, "*Saudi Arabia's experts... regard the country's entrepreneurial framework conditions as generally insufficient*" (GEM, 2017), the progress in promoting women's entrepreneurship in the country is clear.

Entrepreneurship Education and Gender

The word "*entrepreneur*" derives from the old French word entreprendre, "*to undertake*" (Boutillier & Uzunidis, 2013). An entrepreneur is anyone who undertakes to set up a business enterprise. Entrepreneurship is "*the creation of new business enterprises by individuals or small groups, with the entrepreneur assuming the role of society's major agent of change, initiating the industrial progress that leads to wider cultural shifts*" (Kent et al., 1982). Entrepreneurship education (EE) is about realizing opportunities and setting up a business enterprise while management education concerns running the existing enterprise. EE can stimulate both entrepreneurial skills and students' intentions to be entrepreneurial (called entrepreneurial intention, EI) (Fiore et al., 2019). Entrepreneurial skills include motivation to succeed, creativity, persuasiveness, vision, versatility, risk tolerance, flexibility, decisiveness, and collaboration (Bortz, 2017). Other entrepreneurial traits include self-efficacy, a social orientation, and endurance as well as a need for autonomy, power, status, and achievement (Hessel et al., 2008).

Hessel et al., (2008) cautioned that educators should not assume that EE will have a positive effect. Most EE programs strive to help students gain a realistic perspective on themselves and what it takes to be an entrepreneur (i.e., their traits, skills set and what is involved in setting up a business let alone making a profit). What students do with this gained perspective will affect their propensity and intentions to be entrepreneurial. In varying degrees, some will be inspired, and others will be daunted. In the event of a loss of over-optimism, some students may experience a lower interest in entrepreneurship, while others may be inspired to bolster their skill sets and gain deeper personal insights into their character.

Westhead & Solesvik (2016) made a case for customized EE for women not just because they do not fit the masculine discourse about EE, but because they are a heterogeneous group with traits of their own. Jones (2014) agreed, faulting EE educators for assuming that women need a special form of EE that promotes male-based confidence, skills and knowledge. Women-focused EE would include the provision of (a) theory, (b) techniques and tools to take risks and (c) new ways to collect and analyze information from a feminist perspective. Westhead &

Solesvik (2016) maintained that "*gender-stereotypical beliefs regarding entrepreneurship are influential*", meaning it is essential to let women know that they can benefit from formal learning about entrepreneurship.

This outright assertion may counter several pervasive self-perpetuating gendered stereotypes and lessen women's chance of conforming to gendered characterizations (e.g., women have lower self-confidence, aspirations, entrepreneurial intentions, and are not valued as key human capital in the economy) (Westhead & Solesvik, 2016). When it comes to starting a new business, women are often reported as having low risk awareness, low self-efficacy, and low alertness to opportunities or the propensity to take advantage of opportunities (see Schøtt et al., 2015). Jones (2014) denied this generalization and argued instead that EE must be created from a position of valuing the feminine sphere. Differences in entrepreneurial activity are strongly linked to "*socially (and culturally) constructed gender*" with feminist standpoint theory being one way to dig deeper into this phenomenon (Westhead & Solesvik, 2016). This theory enables researchers to share entrepreneurial stories from the standpoint of the women experiencing them.

Azim & Hariri (2018) recently conducted a study on the present status of EE and training in Saudi Arabia. They reported that most Saudi universities offered an optional entrepreneurship course (not plural) to business students only. It was not mandatory with most business courses populated by men. Saudi EE instructors did not view their students as potential entrepreneurs and they tended to eschew experiential and interactive learning strategies thereby compromising students' potential to develop a much-needed entrepreneurial psyche. Azim & Hariri (2018) also reported that several private and public initiatives outside the university setting were offering some form of entrepreneurial training, counseling, funding, incubation and other advisory and material supports. They observed no entrepreneurship courses in Saudi secondary schools and none in technical institutes.

Women entrepreneurs generally differ from the average woman, and they encounter different problems than their male cohorts when engaging in entrepreneurial enterprise. If not properly considered by entrepreneurial educational and training initiatives, Saudi (like other Arab) women entrepreneurs will end up being under resourced, under productive and inexperienced (Moremong-Nganunu et al., 2018). This scenario can have negative effects on the Saudi economy.

As reflected in Vision 2030, the Saudi government has recognized that the education system should be aligned with the labor market (ICEF Monitor, 2018; KSA, 2016). Therefore, faculty members and teachers will not only be required to bring their practical experience to their job, but also "*integrate their instruction with industry experts that can help make the education experience more relevant to the labor market*" (Vasconi, 2019). Higher Education institutions must ensure that what they invest in education aligns with what the labor market demands. By investing in advanced systems and tools, data across the education system can be collected and analyzed for better decision making on matters such as educational goals, policies and strategies as they pertain to EE.

Finally, in the spirit of lessons learned, Gast & de Raadt St. James (2019) recommended that universities adopt the following strategies (ideally in collaborative arrangements) to encourage female entrepreneurship. They should (a) address the rigid culture that discourages women to become entrepreneurs; (b) acknowledge and help remove financial barriers; (c) cultivate and support women entrepreneurs; (d) develop educational programs; (e) hold special events, workshops and conferences to showcase role models by highlighting successful women entrepreneurs and their achievements; and (f) arrange for mentoring and exposure to investor

networks to help women support their fledgling business. Fortunately, for Saudi women entrepreneurs, the government agency Monshaat (2019) engages in all these activities and more as it brings Vision 2030 to life with its focus on entrepreneurship.

METHODS

The qualitative research design used in this work entailed interviews with Saudi female entrepreneurs (purposeful sampling). "*In-depth interviews*", as a qualitative research technique, were used "*to understand a condition, experience, or event from a personal perspective*" (Hammarberg et al., 2016). Criteria for participation included Saudi women who were (1) business owners in the eastern region and major cities where business opportunities are ample; (2) business owners of startups and established businesses; and (3) business founders and decision-makers of the business. Potential participants (n=12) were approached with a letter of information about the study. Most of them (83%, N=10) consented to the interviews about their entrepreneurial experiences. Fallatah (2012) concurred that a sample of 10–15 participants would generate data with an impact. Participation was voluntary allowing them to withdraw or refuse to answer any question at any time.

Data were collected at a time when Saudi women are making unprecedented progress in businesses in the country. Telephone interviews were conducted by Saudi-based author in November/December 2019 (over four weeks) lasting on average 1–2 hours. Participants responded to probing questions organized around a collection of topics (see Table 2). Taped interviews were transcribed and translated to English but not edited. To ensure reliability and validity in this qualitative study, both triangulation of sources (Pandey & Patnaik, 2014) and intercoder reliability were employed. Lombard et al., (2004) maintain content analysis reliability is achieved when independent coders evaluate a characteristic of an artifact, such as a qualitative interview, and reach the same conclusion. The main and second authors coded the data set for a content analysis achieving 90% intercoder reliability. The second authors also located online sources to validate whether the qualitative data was factual. For example, study participants' business websites were visited. With their explicit permission, the participants' real identities are used in this report.

	Table 2 **ESSENCE OF FEMALE ENTREPRENEUR INTERVIEW TOPICS**
1	Their success story and educational background and preparation
2	Advice for securing start-up funds and another start-up support
3	Advice for overcoming obstacles unique to female entrepreneurs
4	Challenges associated with government's support of female entrepreneurship: laws, policies, procedures and longstanding customs
5	Sustainable, ongoing professional development after leaving university
6	Nature (format) of program delivery methods and duration for education obtained after graduating (e.g., full time, part time, distance learning, off site)
7	Gendered differences around nurturing and developing entrepreneurship knowledge and skills, leadership skills and entrepreneurial qualities
8	Need to develop vision and be innovative and creative

FINDINGS AND DISCUSSIONS

The study included eight female entrepreneurs (with various degrees of experience) and two women entrepreneurs who brought valuable additional insights as HE employees. They both worked at King Abdullah University of Science and Technology's (KAUST) Entrepreneurship Center's Startup Accelerator Program. Table 3 provides a succinct introduction to the 10 study participants. This section is organized by six key findings: (a) sustained PD after graduating; (b) networking; (c) start-up dynamics; (d) government support; (e) female entrepreneurs' problems, insights and advice; and (f) advice from the two KAUST (university) female entrepreneur trainers and educators.

S/N	Name	Business Expertise	Years of Experience	Location/Base
Table 3 STUDY PARTICIPANTS' PROFILES (REAL IDENTITIES REVEALED WITH PERMISSION)			
1	E.A.	Assistant manager of a company who plans to open a cultural coffee shop	14	Sihat
2	Arwa Alshafi	KAUST Program Admin	4	Jeddah
3	Dalal Alrahma	Owner of first nail spa in the region	12	Al Khobar
4	Khulood Tabbakh	Event Planner	11	AlMedina AlMunnawaraa
5	Nouf Alqahtani (Abbrev. Nouf Alq)	Perfumer Creator	15	Dammam
6	Nouf Aldhaher (Abbrev. Nouf Aldh)	Designer	2	Dammam
7	Roaa Saber	Chocolatier Founder & CEO	10 5 (Chocolate factory)	Dammam
8	Sara Alghamdi	Stationery	8	Dammam
9	Amal Dukan	CEO of Global Entrepreneurship Company under the supervision of *Monshaat*	21	Riyadh
10	Mozoon Ashgar	Founder & Manager of MZN Bodycare	5	Dammam

Sustained Professional Development

Eight participants (80%) were university graduates. Of the two others, although Amal was a school principal, she did not specify she was a university graduate. Khulood had a diploma in computer programming obtained from Tiba, Medina. Other than the three who obtained business administration degrees (Mozoon, Arwa, and Nouf Aldh), those with bachelor's degrees studied in chemistry, special education (learning disabilities), teacher training, English literature, and sociology. Those disciplines are not business-oriented.

After obtaining college or university accreditation, all participants studied business as part of ongoing PD and further education. To illustrate, Nouf Alq, a 2001 chemistry graduate, obtained an MBA in 2012 from King Faisal University. She also took Perfume Manufacturing and Management courses in Paris and London to become a trainer. Since 2013, she has trained more than 500+ women, with some starting their own businesses.

After E.A. received help from the Asharqia Chamber to make a study plan, she started a business project. She also began, but was unable to complete a trainer training course. For further study, another participant, Amal, obtained a master's degree in Strategic Marketing. She attended workshops and courses provided by American universities at KAUST. She was then offered and accepted a position of entrepreneurship and training program leader. KAUST sent her to San Francisco (California, United States) to complete a design thinking course after which she returned to KAUST to develop its design thinking course. Although she does not possess a doctoral degree, she has taught KAUST master's and doctoral students as a practitioner.

After graduating university in 2006, Dalal attended full time courses about nail art for a total of 80 to 100 hours. Roaa joined a French culinary school in the US to learn about chocolate making, including history, literature, the chocolate tree, chemistry, physics, quality assurance, and food shelf life. She also took free courses at the new Saudi government entrepreneur agency Monsha'at to acquire good thinking skills. Arwa is planning to enroll in the Executive Education Program provided at her work university (KAUST).

Sara took courses, attended workshops and meetings and held different jobs between 2007 and 2012. The courses exposed her to new resources and taught her how to grow her business and decide what to do next. The workshops were about pricing, increasing sales volume, and design thinking. In addition, she attended meetings pertaining to business and entrepreneurship in both the Eastern region and Riyadh city. Sara also took a part-time course in the UK on how to turn designs into profit. This course helped her to both think about business matters differently and manage and secure finances in a very simple but effective way.

Khulood has qualifications in découpage art, flower decoration, event organization, and bakery (cupcakes and cakes) all obtained from different locations around the Eastern Region and major cities (e.g., Medina, Jeddah and Riyadh). During the10 years following university graduation, she traveled and attended a chocolate-making class in Riyadh and completed other courses and workshops before starting a business. In addition, Nouf Aldh took courses to learn how to train and lead people.

Perceived necessary entrepreneurial skills. A cursory examination of their descriptions of the after-graduation PD courses and initiatives revealed a collection of skills sought after by these established and budding entrepreneurs: training, thinking, leading, strategic marketing and sales, business development and growth, and product or service-specific technical skills and knowledge (e.g., nail care, event organization, and chocolate making). In the entrepreneurial spirit, these women sought out skills related to taking advantage of opportunities as well as gaining management skills. Apart from the specialized skills that a business requires, along with leadership and training skills, the participants also wished to gain the ability to (a) innovate so that new ideas can be explored and (b) create so new products can be developed (Bortz, 2017; Hessel et al., 2008). Their desire for these abilities reflected their inclination to take courses that helped them think differently, which implies that their undergraduate degrees fell short in these areas.

Networking

Networking facilitates interaction among entrepreneurs to exchange information and develop professional contacts. According to Danish and Smith (2012), a lack of networking was one of the challenges Saudi female entrepreneurs faced before gaining success. Some of our study participants expressed similar concerns with some having their own way to network. For

example, Nouf Alq networked by contacting employers, meeting and training people in university programs, and sharing knowledge in social media, such as SnapChat. Nouf Aldh networked by attending a 2019 exhibition. E.A. knew it was important that she started networking, so she could make connections and benefit from meeting with people who had different experiences in other locations and career paths. Khulood realized that she needed to work on PR (i.e., generate a media presence), which would require networking.

Internet Technology and Social Media

A few participants explicitly said they used social media to network and enhance their business activities. Nouf Alq & Khulood used Instagram to broadcast news about their businesses. Dalal said there were many interesting ideas posted to social media (e.g., Snapchat), but the key is how to implement them. She also felt that once an entrepreneur knows what people are looking for (i.e., market demand), she can then create her own business ideas to match that demand.

Startup Dynamics

For these study participants, starting a business had its own unique set of dynamics related to funding, support from families and other actors, and the process of gaining independence from male relatives and in general.

Start-up Funding

Findings indicate that funding for startup came from a combination of government support, self-funding, and family support (especially fathers). Roaa received government funding through support from the Prince Sultan Fund (see UNDP Saudi Arabia, 2010). Mozoon was self-funded, and her business generated profits; she sought no other financial support. To avoid debts in case of business failure, Khulood did not borrow any money to start her business either. Starting with SAR 2,000 ($533 US approximately), her self-funded business generated profits and is now worth SAR 180,000 ($47,992 US approximately). She wants to continue to single handedly run her business, so she can retain the revenues.

Sara's application for funding for her stationery business was rejected for various reasons, with some funding programs being unconvinced that her business would succeed. Some even suggested that she should cut costs by producing her products overseas, but she was certain that a quality product, produced locally, would be very competitive with good branding. Her subsequent success and achievements proved that she was right.

Some participants received start-up funding from their fathers. For example, Nouf Alq received SAR 3,000 start-up funds from her father and made a profit of SAR 9,000. Dalal's father advised her to start from scratch, clarifying that if she managed to secure a loan, he would double the loan. After conducting a feasibility study and applying to the Centennial Fund in Riyadh, her project was nominated as the best business project for 2006 and 2007. Nouf Aldh sought no government funding, but her businessman father gave her financial support.

Family Start-up Support

The majority of participants (70%, n=7) indicated a lack of help or advice from their family in order to start their new businesses and become successful. For example, Mozoon's

husband traveled and worked in Riyadh and could not give her any help in running her business. Neither Khulood's two sisters (who have their own shops) nor her husband were able to assist her in setting up a business. Nouf Alq's husband would not allow her to attend a meeting where she could network even though she had received the local region's governor's invitation to entrepreneurs' functions.

By contrast, some participants' parents were inspirational and supportive and, occasionally, some husbands helped their wives to become businesswomen. Regarding the former, after Nouf Alq shared her business passion with her parents, her father provided start-up funding. Despite this generous gesture, Nouf Alq did not ask her family for additional funding, because she wanted to run her business at her own risk. However, she did seek financial advice and accepted help from her family with building an official website for her business.

In Dalal's case, trading was her family's business, and her father encouraged her to start a business. The environment she grew up in was supportive of her becoming a businesswoman. After graduation, Roaa's mother taught her how to cook and make chocolate for hosting at home. Through this family-supported process, Roaa's business talent eventually emerged.

Others' Start-up Support

The majority (70%, n=7) of participants also recollected that, aside from family, no one actually provided them with support or gave them advice on how to start a new business. Khulood specifically pointed out that she needed help and advice from others. Roaa took initiative and applied for the Prince Sultan Fund (see UNDP Saudi Arabia, 2010), which provided her with courses in feasibility studies, market competitors' study, networking, and management. Nouf Alq, who has a perfumery, sought help from an entrepreneurial advisor who told her to focus on designing and creating perfumes instead of manufacturing, producing and selling them, which specialists can do.

Gaining Independence from Male Authority

Some participants commented about what was involved with gaining independence from male family members. This issue ties in with the previously mentioned guardianship laws, whereby women could not travel without permission from and/or the accompaniment of a male relative (Fatany, 2013). These laws changed in August 2019. Women can also now apply for passports and travel and leave the country without a male relative's permission. But change may be slow, because "*the guardianship system is [sic] upheld as much by custom as by law*" (Van Wagtendonk, 2019). "*Saudi women remain subject to strict guardianship laws that prohibit them from making many basic decisions without the permission of a male relative*" (Specia, 2019).

Roaa said that, at the national level, the government is taking steps to facilitate female entrepreneurs to become independent. Similarly, Dalal & Sara pointed out that application for business registration can now be done online instead of depending on male family members to go to the authority in person. Mozoon is currently working, and her status is a 'traveling companion' (unpaid) while her husband travels and works in Riyadh. Nouf Alq was able to become independent in that she does everything in her perfume business by herself. Nouf Aldh was so inspired by Vision 2030 that she now supports young females to create things by their own hands. When they cannot seek further education, Nouf Aldh ensures that training opportunities are provided to them, so they can make money to support themselves and gain independence.

Government Support

Participants offered (a) their thoughts on the Saudi government and higher education sector's support for female entrepreneurs and (b) their experiences with male-dominated bureaucracy when starting their business.

Nouf Alq considered the government to be supportive, as evidenced by it giving credits to businesses. From Mozoon's experience, help from the government was available and incubator members can work in the opened space. She took courses offered at the entrepreneurial government agency Monsha'at (in the city of Riyadh). She felt this support was encouraging to female entrepreneurs. Amal said that Vision 2030 enables government support and funding for women entrepreneurs as well as men. For example, Monsha'at provides support to women only. Both the Saudi Ministry of Labor and KAUST (university) are increasingly supporting women entrepreneurship. To illustrate, when a female entrepreneur, who had children with her, attended a workshop held at KAUST, the university provided a separate room for her children during the event. In another case, KAUST provided an office just for women in their Startup Accelerator Program, which helped female participants enjoy learning in comfort.

The success of Babson (an American entrepreneurship college) inspired Amal to initiate a Saudi Startup Accelerator Program at KAUST for "*women only*" to boost their confidence. Accelerator programs provide some combination of seed money and investments, mentorship, networking, and education that culminates in students pitching their idea at a public event (Cohen, 2014). These programs facilitate and give psychological support to new women entrepreneurs. The program will soon be available in different places in Saudi Arabia including Alqafila (القافلة), Arar & Al-Jouf. Arwa asserted that the Saudi Ministry of Education has an entrepreneurship program that teaches schoolchildren about entrepreneurship, the entrepreneurs' mindset, how to design and start a business, and what constitutes the customer journey. Azim & Hariri (2018) disagreed, claiming instead "*that no formal course on entrepreneurship is offered in [Saudi] secondary schools*".

Women Handling Government Red Tape

Dalal explained that Saudi women traditionally depended on husbands, fathers and brothers to do the paperwork for the business; for instance, women were not allowed admittance to government departments (which had changed now). This lack of physical access meant it often took 6–7 months for a municipality business license to arrive. She recounted that it was quite common for male bureaucrats to tell women to come to the office at 8 o'clock in the morning then having to wait until 2 o'clock in the afternoon… for nothing. Women would be told to come back the following day. Dalal explained that because the applications can now be made online, and the list of required documents is clearly stated on the website, women can complete the application online and collect their papers in the morning.

Roaa explained that business startup is a complex process, but she knew that the Ministry of Commerce is now improving the system by working with entrepreneurs. For example, Tayseer Committee (تيسير) was created to deal with paperwork, licenses, taxes, and Zakat (donation to charity). Those activities are now run in the same office, which boosts efficiency. As a matter of interest, Tayseer was "*tasked with continuously improving the way business is conducted in the Kingdom, in an effort to create a conducive, mature and stable environment for doing business*" (as cited in Invest Saudi, 2016). Tayseer also aimed "*to provide the necessary guarantees for the preservation of rights [for the private sector]*" (Arab News, 2017). To

reiterate, having the administration offices all in one place (at the Ministry of Labor) also cuts down traveling time and is timesaving. Sara remarked that applying to the Ministry of Commerce for a business startup can be done online, which facilitates the registration process and again saves time.

All said, further improvement is needed, however. Mozoon agreed that the government has changed and improved the business and entrepreneurship regulations. However, she felt that new laws are needed that enable women's factories to operate. There are hurdles to overcome when applying for a license to open a female factory, which can be done online. However, business licenses from the Food and Drug Authority are not available online yet. Mozoon went to the Ministry of Trade by herself clarifying that this task is traditionally performed by males.

Female Entrepreneurs' Problems, Insights and Advice

Participants offered their (a) thoughts on problems they encountered when starting up and trying to maintain their business and (b) insights for other women embarking on this journey.

Saudi Female Entrepreneurial Problems and Solutions

This section profiles problems encountered by female participant entrepreneurs with some problems accompanied by solutions. Problems revolved around gender, logistics, and local culture. To begin, Nouf Aldh faced difficulty in using local languages when she studied abroad in the US and Turkey. Her solution was persistence and learning how to speak the foreign languages. Nouf Alq said she had to overcome the obstacle of customer and cultural skepticism and mistrust. She first branded her perfume using her own name. However, her business suffered a substantial financial loss the first year mainly because female customers would not buy a fragrance for their husbands as a gift that was named after a woman. The idea was too new to the local culture. Consequently, Nouf Alq rebranded her perfume using four letters – NSHQ. The first letter is from her name followed by the first two letters of her parents' names with the last letter from their family's name. NSHQ sounds like Nashaq when spoken, which means 'inhaling deeply' in Arabic.

Dalal knew she would normally need a male sponsor or manager to support her business registration in the KSA. But because her business serves females, she could complete her business registration without a male manager. She wanted a nail salon, not a traditional female salon, which is located in villas in the street occupying two floors covering 300 to 400 square meters. So, she went to the Director of the Municipality in AlKhobar to explain a nail salon as she understood it. She managed to convince him that it was a brand-new business idea and successfully obtained the first-ever business registration for a nail care center in the country. Dalal brought this business concept from abroad and introduced it into the local culture. She opened her nail salon in a mall as a shop that covered only 80 square meters.

Khulood said she needs a team to work with her, but no one from her family can give her support, because her two sisters have their own business. Knowing that many fellow business owners with a good media presence and PR have become successful, Khulood aspired to work on her own PR. Also, new products arrive in the Eastern Region before reaching Medina, where Khulood's business is based, meaning these products sometimes preempt her offerings. Khulood's problems persist. Because Arwa had lacked business experience and access to sufficient information, her initial one-year old startups were all shut down.

Mozoon said that some governmental regulations are not in favor of females, because male bureaucrats assume that women do not possess the experience required to be employed; subsequently, there is a lack of female employees at her factory. Traditionally, Saudi mothers stay at home to take care of the children and the entire household. Mozoon thus must wrestle with challenges faced by her female employees, including family commitments. The latter entails picking children up from school during the employee's break, feeding them, taking them back to school and then returning to the factory when the break is over. Roaa also reported gender-based issues, including the reality that female-managed factories are not in Saudi's business culture, and work visas for female employees are difficult to obtain.

As well, Nouf Alq no longer used the Prince Sultan Fund for several reasons. First, the Fund did not allow women to work in factories (but this situation has changed since 2015). Second, the female workforce is not reliable. Taking sick or maternity leave affected both the quality of work and production levels. Also, an entrepreneurial advisor told Nouf Alq that she needed to stay on track as a designer and let someone else work on the production line. CHANEL and other successful perfume operations were offered as examples to follow.

Female Entrepreneurial Insights

A content analysis of the interview data revealed a rich roster of business insights shared by study participants. Some of those ideas for success are traditional, such as "*be patient*", "*be passionate*" and "*be self-motivated.*" Overall, "*be knowledgeable about product, markets and clientele,*" "*build trust and confidence,*" "*build a good reputation*" and "be innovative and creative" were the highlights of their business insights. This collection reflects traits identified by Bortz (2017), Fiore et al., (2019) and Hessel et al., (2008). The following evidence is direct quotes from the data set with no attribution to participants.

- Opening a business is challenging, so you need to have passion and the drive to achieve your goals.
- Love your own business.
- Be patient, committed, and self-motivated.
- Invest time to reach goals and be patient.
- Be a product and service innovator.
- Create something new and attractive to customers.
- Sharpen your business knowledge by doing research.
- Stay current by attending courses and paying attention to the market and new business development.
- Study in the field of the business you want to open so that you will know whether your business ideas will work.
- Build a good reputation.
- Build trust with customers.
- Use persistence and passion to win clients' confidence.
- Deliver to customers more than what they ask for; give them extra even though it means a reduction in profits but improved loyalty.
- Get to know market demand very well, because things keep changing in the business world.
- Be knowledgeable, because consumers are more informed than in the past because of social media.
- Pay attention to clientele and its composition.

- Help others to succeed.

Participants also tendered advice about and insights into how to provide support for female employers and their employees, including but not limited to:

Employers

- Promote angel investments to kick start entrepreneurial enterprises;
- Provide access to capital supported by the government;
- Ensure government-provided entrepreneurial training in leadership and financial management;
- Establish networking opportunities for aspiring and established entrepreneurs; and
- Facilitate effective recruiting practices to match employees' skills with firm's needs.

Employees

- Provide daycare for children of businesswomen and their employees;
- Put in place flexible work hours, break times and schedules for employees (to carry out family responsibilities);
- Implement leave and time off for employees (e.g., maternity leave, leave related to other care responsibilities); and
- Supply financial assistance for employees in the case of emergency.

Advice from Female Entrepreneurial Educators

This final section focuses on the two female participants who were associated with KAUST's university entrepreneurial program (Amal and Arwa). Amal is CEO of KAUST's Entrepreneurship Company that works under Monsha'at. She said her first initiative was to educate and encourage angel investors (45 in total) to invest in Saudi women entrepreneurs. "*Angel investing involves active mentoring and coaching of an early-stage management team towards a successful exit [to achieve a high return on the investments] from a venture capital firm*" (McKaskill, 2009). Dima Al Yahya created Spark, the first angel investors network for Saudi women. Its goal is to attract female angel investors to invest their money in female startups. Amal believed that a lot of work needs to be done in providing education and raising awareness of angle investors for women in the Eastern Region, because the local culture is still traditional meaning male oriented (see Bullough et al., 2015, who also addressed cultural norms infringing on female entrepreneurship).

Amal explained that recent accelerator programs cater to other types of startups, such as the business operated by Manar Al-Amiri. She implemented the Saad for audio books by recording and publishing audio Arabic books (see Williams, 2017). Another example is Fix Tag, which fixes phones and laptops. Amal was convinced that these new types of entrepreneurs were successful, because their projects improved people's daily lives.

Arwa (also at KAUST) has a coordinator role in the Startup Accelerator Program, which helps one- and two-year-old businesses. They should have already developed a product or service, hired people and put a process in place. The program funds both male and female entrepreneurs. Initially, many projects were related to education technology, financial technology, health technology, and risk-management technology. There are several government programs that support small- and medium-sized startups and female businesswomen, such as the General Authority for Small and Medium Enterprises (i.e., Monsha'at).

Arwa recounted that, before 2014, it was common for groups of people to start businesses together, but now more people open their businesses individually. She has observed big changes in the last five years since the government began supporting business activities in the Kingdom by implementing related programs and providing an enabling environment. Arwa's advice to new female entrepreneurs includes (a) join an incubator program, (b) ask for funding before starting a new business (but do not invest too much at first), (c) examine, research, and attend meetings and workshops in one's business of interest, and (d) network in that business.

IMPLICATIONS

The qualitative research design of this study generated rich data pursuant to the lived experiences of Saudi female entrepreneurs. It provided valuable data on their perceptions of and opinions about government efforts, funding, family support, networking, gender sensitivity, education and training needs, cultural influences, enabling/disenabling environments, and technology (see also Damanhouri, 2017). This information is timely and valuable, because both the authority and education system must be responsive to the economic needs of a country (ICEF Monitor, 2018; KSA, 2016).

Also, more than half (52%) of university students in Saudi Arabia are women (Drury, 2015; KSA, 2016). The facilitation of young female entrepreneurship in higher education (augmented with on-the-ground lived experiences revealed in this study) opens many opportunities for university graduates to become employers and contribute to a healthy job market and Saudi economy. Efforts to promote entrepreneurship education and provide funding to support the incubation and growth of female entrepreneurial initiatives need to be bolstered and tailored to meet the unique circumstances faced by Saudi women entrepreneurs.

RECOMMENDATIONS FOR SAUDI FEMALE ENTREPRENEURSHIP EDUCATION CURRICULA

Building on both the findings from our study and Azim and Hariri's (2018) recent generic work in Saudi Arabia, we recommend that further research on existing and evolving FEE and training in Saudi Arabia be conducted to determine how FEE is evolving and what needs to be improved. Drawing from the study participants' articulated challenges and obstacles when starting their business and entrepreneurial insights and advice, the discussion now turns to suggestions for content for future Saudi female higher education EE curricula.

At the rudimentary level, basic (generic) EE curricular components would pertain to the following aspects:

a. They would cover project-based and experiential learning, so students can focus on planning, managing, coordinating, adapting, risk-taking, and handling critique and criticism.

b. Students would learn about both the technical aspects of product and service design and development, and the entrepreneurial process itself.

c. The curriculum would sensitize students to the need to assume responsibility for their company and their community, which are in a reciprocal relationship (Bortz, 2017; Fiore et al., 2019; Hessel et al., 2008; Kent et al., 1982; Niehoff, 2017).

d. Female entrepreneur students would master presentation skills so they can develop, pitch, promote and present their ideas about themselves, their company and its offerings.

e. Through deep learning experiences, the curriculum would teach students how to be creative, innovative and breakthrough thinkers. This would be achieved through making space for ideation (the process of forming ideas) and many ways of thinking: design, lateral, transdisciplinary, and adaptive.

f. Students would become technologically savvy (or find someone who is) and social media literate, so they have a venue for marketing themselves, their business and their products and services (e.g., Twitter, Snapchat, Instagram, Facebook, YouTube, Vimeo, blogging) (Bortz, 2017; Fiore et al., 2019; Hessel et al., 2008; Niehoff, 2017).

g. The generic EE curriculum would help students gain in-depth understanding of the local, national and global economy that they are entering, economic and globalization theories, and the essence of business management theory and principles (Bortz, 2017; Fiore et al., 2019; Hessel et al., 2008; Niehoff, 2017).

In summary, future efforts around Saudi female EE curricula should consider and incorporate the ideas set out in Table 4, which were gleaned from our content analysis and organized by seven overarching elements. Bullough et al., (2015) also recognized the significance of many of these elements: finance, management, leadership and the cultural, gender and societal context.

Table 4 PROPOSED ELEMENTS OF SAUDI FEMALE-ORIENTED ENTREPRENEURIAL EDUCATION CURRICULA	
Business	• Supply chain management theory and logistics attuned to regional nuances • Pricing and strategic marketing in regional context • Product/service marketing and self-marketing and promotion • Saudi market and competitor awareness • How to conduct research and use investigative inquiry process • Media presence in Saudi media climate • Healthy and respectful customer relations in Saudi culture (local and national) • Manufacturing processes lead by women • Hiring and then managing a female workforce • Female-oriented management and leadership principles and processes
Financing	• Self-financing • Family-member financing • Government financing and support • Private financial institutions • Accelerator and innovation hubs • Female angel investors
Networking	• Value and theory of networking • Role of technology and social media in networking • Continuing education and PD as networking venues • Conference attendance as networking venue
Government	• *Vision 2030* and its central focus on female entrepreneurs and empowerment • Identity of all entrepreneurial-related government offices and related support services for female entrepreneurs • Navigating the application and licensing process for female entrepreneurs
Culture	• Awareness of current business culture (especially gendered aspects) • Full awareness of local culture, norms, customs and traditions and their gendered impact on business success • Link between women entrepreneurs and community • Mentoring and inspirational role for future generations of women entrepreneurs

Thinking	- Train the trainer - Creative problem posing and solving - Innovation theory and process - Critical thinking - Out-side-the box (lateral), creative thinking - Design thinking - Think like a leader
Gendered dominance and gender-based pros and cons	- Appreciation of the influence of gendered dominance on business start up and success including at home, in the business sector, in government bureaucracy and higher education - Awareness of gender-based differences in entrepreneurship skills, management and leadership styles - Use of feminine sphere impact on nurturing a positive work culture and working relationships - Find ways to produce gendered impact on communication and negotiation

The topics enumerated in Table 4 are essential; we realize there are some topics that a formal FEE curriculum cannot cover, because students are likely not yet entrepreneurs while at university. That said, instructors can socialize aspiring entrepreneurs to focus on several lessons learned from the experienced and successful entrepreneurs in this study. These include: gaining a deep appreciation for ongoing PD; managing one's expectations of self, business and support structures; being open to foreign language acquisition to expand markets and PD opportunities; engaging in ongoing self-assessment to learn more about and hone one's entrepreneurial character traits; and knowing and heeding one's limitations so one is more inclined to delegate and outsource aspects of the business. Bullough et al., (2015) affirmed the value of bolstering women's human capital so their knowledge, skills and capabilities align with the entrepreneurial spirit and outcomes.

We feel that female entrepreneurship education (FEE) is in its infancy in Saudi Arabia. A considerable amount of work needs to be done. To promote FEE, we tender a point-by-point strategy (i.e., blueprint). The proposed blueprint contains a combination of generic and gendered perspectives. When Saudi higher education institutions begin work on FEE, they can draw on the results of this study to help bring gender sensitivity into the curriculum. Also, these initiatives can take valuable direction from Bullough et al., (2015) entrepreneurship education and training effectiveness framework.

It is recommended that higher education, in collaboration with government, entrepreneurial business enterprises, and private and public institutes (Gast & de Raadt St. James, 2019), should coordinate how to:

- define FEE in the Saudi context;

- design FEE curricula replete with student learning outcomes and assessment and evaluation protocols;

- ensure quality education and gender sensitivity (as defined by UNESCO, 2014; 2016) and informed by our study findings in all aspects of the curriculum and this blueprint;

- privilege an experiential and interactive learning pedagogy, so students can develop a much-needed entrepreneurial psyche, spirit and character traits (i.e., human capital);

- facilitate FEE content production and publishing to make resources readily available;

- ensure FEE teacher training and ongoing PD and networking;

- promote and provide coordinated formal and informal EE training, which includes identifying possible FEE providers (e.g., universities and business schools); and

- identify ways the Saudi government can continue to support FEE and aspiring female entrepreneurs, especially through relaxing cultural rigidity and gendered differences (e.g., laws, regulations, programs, funding, and other support mechanisms).

- Further investigations on new female start-ups in Saudi Arabia compacted by the COVID-19 pandemic are recommended. Crises such as a pandemic can be seen as a test to how robust the Saudi entrepreneurship system is.

CONCLUSIONS

Saudi Arabia has taken its first few steps toward fulfilling Vision 2030 by valuing empowered women who can aspire to contribute to the economy by embarking on journeys to entrepreneurship. With continual government support, aspiring female entrepreneurs could better face uncertainties prevailing in the world and successfully establish themselves as viable contributors to the Saudi economy.

This research highlighted ten role models in Saudi female entrepreneurship in the hope of identifying ways to strengthen FEE in Saudi Arabia. Briefly, areas that need improving are relaxing local cultural rigidity, raising gender sensitivity, removing financial barriers, creating enabling environments, and designing evidence-based FEE programs.

Suggestions for a more female-oriented EE curriculum that tackles multiple gender issues were made along with a point-by-point strategy (blueprint) to bring it to life. By nourishing Saudi female entrepreneurship, the Saudi government can improve the nation's GDP, create jobs, modernize the economy, strengthen society and community, and fulfill Vision 2030's realization of a thriving economy through businesswomen's empowerment.

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