Universitat Autònoma de Barcelona

Female Entrepreneurial Activity in Saudi Arabia: An Empirical Study

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DOCTORAL THESIS

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Abstract

Research focusing on female entrepreneurship has grown gradually over the last decades. Most of these studies, however, have been conducted in developed nations and there is an urgent need for more work on female entrepreneurship in the Middle East and North Africa Region (MENA), and specifically in Saudi Arabia. The present study aims to fill this gap. Its purpose is to explore the challenges that female entrepreneurs in Saudi Arabia face, the facilitation provided to them, and the actors involved. The thesis therefore aims to develop a fuller understanding of the circumstances of Saudi female entrepreneurs, the factors that influence them, and how and why these differ from those in Western nations, so as ultimately to explore the implications for policy in Saudi Arabia. The research is the first empirical attempt to provide a comprehensive account of the factors affecting women's attitude towards entrepreneurship in Saudi Arabia in the wake of a series of changes in the formal institutional environment aimed at capitalizing on youth and particularly females. Unique factors for consideration in Saudi Arabia were also analyzed; particularly the wide gap in gender roles and the generally distinct cultural practices compared to Western nations, and the status of the country as a key destination for Muslims worldwide, an essential primary source of energy, and a beacon of economic and political stability in the Middle East region.

A quantitative method is used in this study. First, factors were identified by means of systematic literature review and secondary data from the Adult Population Survey conducted by Global Entrepreneurship Monitor (GEM) and these were used to develop a primary survey to generate further questions to achieve the main objective of the study. The research therefore uses different techniques for its analysis: systemic literature review, binary logistic regression, exploratory factor analysis, and structural equation modelling. The process of collecting primary data employed a stratified sample to ensure coverage of entrepreneurs from different areas, educational backgrounds and work sectors within Saudi context.

The main findings of this thesis suggest that the institutional environment played an essential role in the growth of female entrepreneurs. In this regard, this thesis suggests that informal institutional factors are more reliable in driving women's behavior towards entrepreneurship than formal ones. Through empirical observation, formal institution factors have no direct effect in influencing the perception of females toward entrepreneurs, but through informal institutions, there is a significant influence on women in entrepreneurship.

This thesis has important implications for both theory and policy. The study contributes to theory development as it is essential to understand the effect of institutions on female entrepreneurial activity within an environmental context. In tandem, the study plays an important role in offering comprehensive recommendations for policymakers in respect to moving the right burden over the policies and procedures, and developing policies to increase the proportion of female entrepreneurs.

Keywords: Female Entrepreneurship, Gender, Institutions, Emerging Economies, Saudi Arabia

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Chapter 1

1 General Introduction

1.1 Problem Statement and Research Objectives

Despite a gradual increase in female entrepreneurs globally, less than ten percent of research studies in the entrepreneurship field focus on the role of female entrepreneurship (Brush and Cooper, 2012). Furthermore, most of these studies incorporating female entrepreneurs have been conducted in developed nations (Al-Dajani and Marlow, 2010; Hattab, 2012; Tlaiss, 2015). Thus, little is known about the role of female entrepreneurs in the Middle East region, which leaves much to be investigated; this is the reason why this thesis is geographically restricted to Saudi Arabia (Welsh et al., 2014; Zamberi Ahmad, 2011; among others).

Additionally, Ahmad (2011) noted that there are questions that remained unanswered about the condition of Saudi female entrepreneurs. Given that over the last few years, there have been several significant changes to the nature of female entrepreneurs, thus increasing the extent to which women are attracted to self-employment (Vision, 2016). There have recently been dramatic changes in the country of Saudi Arabia to promote entrepreneurial activity, and some of these initiatives specifically target women, making it easier for them to start and continue entrepreneurial activity (Vision, 2016). Saudi leaders have introduced an ambitious new programme of economic expansion and diversification called “Vision 2030”. Vision 2030 seeks to shift the Saudi economy away from its traditional reliance on natural resources to capitalise more on those human resources that can drive the economy in the right direction (Vision, 2016). The vision stated that one of its priorities is to provide greater opportunities in the market, with a particular emphasis on females. This statement indicates that the Saudi government has recognised a lack of equal opportunities for women in the market, which have created barriers of entry to the market for many women to start and continue their business over the years. Only recently has the Saudi government initiated institutional change to encourage participation of women in entrepreneurship.

According to Bruin et al. (2006) there is a disproportionate number of male entrepreneurs compared to females. A number of scholars have attempted to study women in entrepreneurship in order to understand the reason behind this gender gap (DeTienne and Chandler, 2007; Eddleston and Powell, 2012; Gupta et al., 2009; Welsh et al., 2017). Although evidence shows that women face various obstacles while starting and sustaining business ventures (Bardasi et al., 2011; Gupta et al., 2009; Nsengimana et al., 2017). These barriers are further emphasised in a patriarchal society like Saudi Arabia where there is already an inherent bias towards males (Welsh et al., 2014; Ahmad, 2011; Zeffane, 2013). Relevant barriers include lack of access to a network (Alam et al., 2011; among others), lack of access to resources (Minniti and Nardone, 2007; among others), the difficulty of work-family life balance (Eddleston and Powell, 2012; among others), and gender bias in a work environment (Ahmad, 2011; among others). Other barriers include a lack

of access to human capital factors such as education, skills knowledge and experience to start a business. It is important to understand these barriers in a society where is there is an inherent gender bias due to the patriarchal nature of the society, this warrants future work on why and how women entrepreneurs deal with these barriers in contexts such as Saudi Arabia where the evidence suggests that they are substantial (Zeffane, 2013).

In addition to these obstacles, cultural factors are frequently mentioned as the most significant barrier to female involvement in entrepreneurial activity. In Saudi Arabia, culture plays an important role in shaping women's priorities and expectations (Welsh et al., 2014; Zamberi Ahmad, 2011; among others). Saudi Arabia is a conservative society, especially in regards to women, with widespread culturally-informed beliefs that the primary role of women is in home caring and child-rearing, and that men have authority over women to do business on their behalf (Wali: someone with authority or guardianship: for example, unmarriageable kin or husband). This ingrained dependency on men to do business or network with other men unfortunately causes many women to stay away from entrepreneurial activity (Alturki and Braswell, 2010; Danish and Smith, 2012; Welsh et al., 2014).

Other barriers discouraging women from becoming entrepreneurs that have been identified in the literature include dealing with ambiguous and lengthy government procedures (a feature across the Middle East, but particularly so in Saudi Arabia, and affecting women especially, for the reasons articulated in the preceding paragraph), a lack of government support, the domination of large corporations in the market, and the restrictions on travel facing women (Alturki and Braswell, 2010; Welsh et al., 2014; Zamberi Ahmad, 2011). Klyver et al. (2013) noted that macro-environment factors have a significant effect on women's decisions to become entrepreneurs through the micro-level. Recently, however, a number of these policies and regulations have been removed; for example, allowing women to obtain a driving license, passport and to travel, or getting trade licenses in real estate and construction (Vision, 2016). Although the government and policymakers have gradually removed regulations with inherent gender bias, the extent to which these changes have served to promote female entrepreneurship in Saudi Arabia warrants further investigation.

Overall, the main objective of this thesis is therefore to explore the condition of female entrepreneurs in Saudi Arabia in terms of the challenges faced, facilitation provided and the actors involved, so as to understand what circumstances and factors differ for Saudi female entrepreneurs compared to their counterparts in Western nations, why these differences exist and what impact they have on female entrepreneurship.

The objectives of this study are the following (each objective is related to a specific chapter and also to a different research phase).

1. To explore the literature focused on female entrepreneurship conditions in emerging economies and how this is linked to the focus on a specific nation such as Saudi Arabia (chapter 2, phase 1).
2. To analyse the condition of female entrepreneurship in Saudi context by using the entrepreneurial ecosystems approach (chapter 3, phase 2).
3. To build a comprehensive and complex view of institutional factors influencing female entrepreneurship in Saudi Arabia, utilising institutional economics as a theoretical framework (chapter 4,5, and 6, phase 3).

1.2 The Context of Saudi Arabia

Since the 1990s, Saudi Arabia has relied heavily on oil production; indeed, the abundance of oil is the main reason for the rapid economic growth and development of Saudi Arabia (Burton, 2016, p.3). Saudi Arabia is one of the largest producers of oil in the world and is reliant on it for almost 43% of its GDP (Burton, 2016, p.3). Population-wise, Saudi Arabia is considered a youthful country, as more than half of its citizens are under the age of 29 (Nieva, 2015). The Saudi labour force comprises of 5.6 million members out of 11.9 million in the total labour market (Ministry of Labour Force, 2016). Statistics show that the 5.6 million members of the Saudi labour force are mostly males. The percentage of Saudi women in the workforce is 22.1%, compared to 77.9% of men (Ministry of Labour Force, 2016). The participation of women in the labour force is considered to be low, as out of 31 million citizens, including 13.1 million women, only 1.9 million women are in the workforce (Ministry of Labour Force, 2016). The high percentage of women who are not active in the workforce shows that Saudi Arabia is a country with a large gender gap, and this represents a significant difference compared to North American or European countries.

The majority of the Gulf region countries, and the Middle East as a whole, follow Islam as their official religion. This endorsement of Islam created a significant cultural impact on the country's residents, specifically women (Kuran, 2010). McIntosh and Islam (2010) studied the impact of religion on women in the Gulf Cooperation Council (GCC) countries. In their study, they surveyed 180 women entrepreneurs and found that religion is an essential component for encouraging and discouraging women's entrepreneurial pursuits. This is particularly the case in Saudi Arabia, where segregation between men and women exists in places of employment and is justified by the religious doctrines of the country. This unique context exists for several reasons: Saudi Arabia is the heart of the Islamic world, as it has the two Holy Mosques in Makkah and Madinah; the country's legal system follows the "Sharia," which is derived from the Quran, the holy book of Islam, and Sunnah, the traditions of Prophet Mohammed. Thus, the traditions and behaviours of its citizens are not only shaped by the Arab civilisation but also the Islamic heritage. Fourteen hundred years ago, Islamic doctrines liberated women and made them equal to men (Badawi, 1995). Despite the Islamic doctrines stressing gender equity, women in Saudi Arabia face segregation because as Badawi

(1995) has stated, “many Muslim communities and nations today have regressed to pre-Islamic practices with regard to gender equity.”

Traditionally, in Saudi Arabia, women’s responsibilities were seen as mainly to do with homemaking and child rearing, and they were not encouraged to work, let alone engage in entrepreneurship (Al-Khateeb, 1998). This attitude is also reflected in Saudi’s society through conservative laws regulating women’s participation in the labour force. In essence, women were banned from working in sectors such as the retail industry. Since 2010, the Saudi government restrictions have been gradually reduced, and women have gained the right to accept jobs in different sectors including retail establishments (Burton, 2016, p. 134). Sadi and Al-Ghazali (2010) studied the motivational factors and the barriers faced by women launching start-ups. They have found that self-achievement to be the most common motivating factor for Saudi females to start their own business; meanwhile, traditional restrictions and the lack of coordination between various departments are the biggest barriers. In an attempt to further reduce the traditional and organizational barrier, in 2013, female Islamic scholars were elected to the Consultative Assembly of Saudi Arabia (Majlis Ash-Shura), which is the formal advisory body to the King of the country. The number of women in the Assembly increased over the years reaching 20 percent of the available seats in 2017 (Alotaibi et al., 2017).

In Saudi Arabia, the process of obtaining license permits to run a business is very time-consuming. According to the Doing Business Report, starting a new venture in Saudi requires the completion of at least seven separate procedures (World Bank Report, 2018). later in the same report, it is noted that the time to start a new venture in Saudi Arabia has been reduced from 81 days in the year 2000, to 19 days in 2016. This acceleration in the processes of starting up a business is crucial factor that contributed to the encouragement of entrepreneurship. With this improvement, it can be projected that the time to start a business will be further reduced, especially as, Saudi Arabia is shifting to online registration procedures as a part of its Vision 2030 (Vision, 2016). This latter extension is particularly important for women to become entrepreneurs because government bureaucracy was found to be one of the main impediments for women to becoming entrepreneurs (Alturki and Braswell, 2010).

The current government intends to further extend this liberalisation through the roadmap laid out in Vision 2030. This is driven by the growing recognition of the inherent instability of an economy that relies on the production of one major resource (Vision, 2016). The objective expressed in Vision2030 is to capitalise on human resources by increasing women’s participation in the labour market: first, by requiring the private sector to hire more women; and second, by increasing the number of women engaged in entrepreneurial activity. Central to this latter aim is the removal of barriers within formal institutions, which the government already started to do by allowing women to drive and by developing policies that motivate and assist female start-ups.

1.3 Research Contribution

The expected outcome of the research objectives set out in section 1.1. above is to extend empirical research knowledge and literature on female entrepreneurship from Saudi Arabia. More precisely, a detailed analysis of females' participation in the economic development of the country through their entrepreneurial contribution can yield valuable lessons specific to the Gulf region and generalisable to the Middle East and North Africa (MENA). This section builds on the gaps in the existing studies of female entrepreneurship, as presented below.

First, while there is an increasing volume of research on female entrepreneurship, several studies have shown that this is mainly focused on developed nations (Al-Dajani and Marlow, 2010; Hattab, 2012; Tlaiss, 2015). Furthermore, there have been few attempts in the literature to attain an overview of the research on female entrepreneurs in emerging economies. Conducting a systematic literature review would help to address this gap, and therefore the first specific objective of this study (chapter 2) explores the literature on female entrepreneurship in emerging economies and how this is linked to the focus on a specific nation such as Saudi context. The protocol and approach the study followed (Thorpe et al., 2005; Tranfield et al., 2003) provides several valuable insights in respect to the literature such as level of analysis of each document, journals and published articles per year, and descriptive analysis in terms of title and key findings of each published work. This review enables the development of an overall perspective of the different factors that may help or hinder women entrepreneurs, and helps to focus the enquiry on the institutional environment. Precisely, from the review, it is evident that scholars have identified the need for further investigation of female entrepreneurs, and the influence of the changes in their environment, within specific nations such as Saudi Arabia.

The second main contribution of this research flows from studies by Zeidan and Bahrami (2011) and Zeffane (2013) that proposed a theoretical framework to understanding the various factors related to women entrepreneurs in the Gulf region. In addition studies have called for further analysis of more contextualised works (Welter, 2011; Zahra, 2007) and evidence of the conditions affecting women entrepreneurs in societies with significant gender inequality in the Gulf region, such as Saudi Arabia (Zeffane, 2013). The second specific objective of the study therefore aims to analyse the condition of female entrepreneurship in a Saudi context by using the entrepreneurial ecosystem approach which has been detailed in chapter 3 of the paper. The demonstration of how different entrepreneurial ecosystem dimensions can contribute to the understanding of female entrepreneurial activity in Saudi Arabia builds a theoretical and empirical basis for future scholars.

Finally, although female involvement in entrepreneurial activity continues to evolve rapidly in the Western world, in the Middle East there is a lower percentage of women involved in entrepreneurial activity compared to men especially when compared with the Western world (GEM, 2017). Prior literature has

addressed the issue of the gender gap in entrepreneurial activity (Bullough et al., 2017; Rodríguez Gutiérrez et., 2014; Tlaiss, 2015), but there is little evidence for the reason for the gender gap in entrepreneurial activity in developing nations (Bardasi et al., 2011) and several studies have called for a better understanding of the gender gap across cultures (Krueger Jr, 2007; Liñán and Chen, 2009; Wilson et al., 2009). The third objective of this study, therefore, is to comprehend the complex set of institutional factors that influence female entrepreneurship in Saudi Arabia by using institutional economics as a theoretical framework. Through Chapters 4, 5 and 6 the study seeks to undertake an exploratory analysis of the effect of formal and informal institutional factors on the probability of females becoming entrepreneurs. It then seeks to create a comparison across genders by analysing the influence of institutional factors, and then, lastly, analysing the most crucial factor that influences female decisions to become entrepreneurs, applying various analytical techniques to identify a deeper understanding of the complex relationship between variables. Hence, these chapters, by adjusting the measurement of variables to fit Saudi Arabia, provide further evidence of how recent changes in institutions affect women's involvement in entrepreneurial activity in Saudi Arabia (Welter, 2011; Zahra, 2007). Through this, the thesis is able to provide governments and policymakers with an assessment of the most effective policies to promote female entrepreneurs, as well as supporting future research into the institutional effects on female entrepreneurship in the Middle East and Gulf region.

1.4 Conceptual Frameworks

As explained above, the theoretical frameworks adopted for this study are the Entrepreneurial Ecosystem approach (Brush et al., 2019; Isenberg, 2016) and institutional economics (North, 1990; 2005). These theoretical frameworks have previously been used as frame to provide a deeper understanding of entrepreneurial activity (Alwakid et al., 2020; Audretsch and Belitski, 2017; Candida, 2014; Estrin and Mickiewicz, 2011; Fetters et al., 2010; Gimenez-Jimenez et al., 2020). This section introduces them in turn.

First, the Entrepreneurial Ecosystem (EE) approach composed of different elements that help to create an efficient environment for entrepreneurs (Brush et al., 2019; Fetters et al., 2010; Isenberg, 2010). The entrepreneurship ecosystem concept was created to develop policies, and programmes that promote entrepreneurial activity and motivate individuals to start businesses (Isenberg, 2014). Several scholars attempted to define the components of entrepreneurial ecosystems (Berger and Kuckertz, 2016; Feld, 2020; Isenberg, 2010). Each study above focused on analysing the entrepreneurial ecosystem framework and emphasized that it is a multidimensional and dynamic framework. Underlying most of these entrepreneurship ecosystem frameworks is the assumption that all entrepreneurs have equal access to resources and the opportunity to launch a start-ups; however, such factors differ from one country to another. Additionally, Brush et al., (2019) suggest that the EE theoretical framework is composed of three major dimensions: a system of institutions, organisations and individuals. The favourable combinations of

these three dimensions present a vibrant entrepreneurial ecosystem; therefore, creating an increase in the likelihood of individuals to be starting a business (Berger and Kuckertz, 2016; Brush et al., 2019).

Furthermore, the first part of this research builds on the recently proposed framework of "Entrepreneurial Ecosystem Approach" (EE) (Brush et al., 2019). The EE approach allows an understanding of the interaction between these elements at multiple levels and thus the impact on the individual behaviours of entrepreneurs within a specific nation (Audretsch and Belitski, 2017). This approach is useful for the first part of research in three ways: i) by allowing an understanding of who becomes entrepreneurs, ii) by drawing on the perceptions of individual in order to promote entrepreneurial decision-makers, iii) by explaining the role of different elements in influence both entrepreneurial actions and the wider entrepreneurial ecosystem (Audretsch and Belitski, 2017). Brush et al. (2019) have pointed out how gender is an issue that relates to different elements in the entrepreneurial ecosystem such as stereotypical gendered expectations for specific industries. Thus, the given approach helps to build a wider overview of factors from different dimensions.

The second theoretical framework adopted for this study is based on the institutional economics approach (North, 1990; 2005). North explains institutions as "the rules of the game in a society." In other words, institutions are the crucial engines that drive entrepreneurial activity within different environments, playing a pivotal role in helping or hindering human activity. In light of that, North separated institutions into two categories: formal, which account for laws and governmental policies; and informal, which represent the norms and culture of a society. Thus, formal institutions can be seen as providing new regulations while informal institutions represent the societal approval of those regulations. North (1990) found that if formal institutions are to assist human exchange and reduce the transaction costs, they need to be more flexible and proficient, while informal institution should aim to reduce the uncertainty in human activities (North, 2005). Thus, several studies have made significant use of institutional economics to understand environmental factors related to female entrepreneurs (Noguera et al., 2013, 2015; Terjesen and Amorós, 2010; Urbano et al., 2014; Gimenez-Jimenez et al., 2020).

Institutional economics is particularly suited to this research for several reasons: i) it allows for a clear-cut measure of entrepreneurial activity within the context of changing economies: ii) it allows the investigation of formal factors arising from formal environments in terms of new rules, iii) finally, it allows for an analysis of the effect of these changes in the formal environment on society (Bruton et al., 2010; Urbano et al., 2019; among others). Based on pervious findings, institutional economics is a robust way of analysing the environmental factors (Aidis et al., 2008; Alwakid et al., 2020; Aparicio et al., 2016, 2020a). Additionally, institutions economics demonstrate the importance of understanding the mechanisms and the efficiency of a country's institutional system (Naguib and Jamali, 2015). Applying institutional economics

to the context of Saudi Arabia, therefore, offers an opportunity to further the knowledge about how the institutional environment affects entrepreneurship.

1.5 The Structure of the Thesis

The thesis is split into three phases, and seven chapters including this general introduction and conclusions. Each phase contains its particular objective, methodology and main results.

The study begins with a literature review to explore the research line on female entrepreneurs in emerging economies, theoretical and empirical levels, in order to identify gaps (Chapter 2). This first phase demonstrates the need for an exploration of female entrepreneurs in emerging economies and specifically for an analysis of the conditions for female entrepreneurship in Saudi Arabia. Chapter 3 comprises phase 2 of the thesis, providing multiple levels of analysis of factors in order to identify the specific area to be focused on in phrase 3. Finally, therefore, phase 3 focuses on building a comprehensive and complex view of institutional factors influencing female entrepreneurship in Saudi Arabia by utilising institutional economics (Chapter 4), then by analysing the effect of institutions on each gender (Chapter 5), and finally using more comprehensive analysis techniques to examine the most critical factors that affect the perception of female entrepreneurs (Chapter 6).

Phase 1: *literature review of studies focused on female entrepreneurship conditions in emerging economies and how this reveals the need for a focus on a specific nation such as Saudi Arabia.*

Chapter 2 explores what the condition of female entrepreneurs in emerging economies is, and what future studies should focus on. This systematics analysis helps to present a detailed account of the growth of female entrepreneurs, and identifies the various approaches to this subject adopted in the literature as well as the gaps in the body of knowledge, to establish this thesis' contribution. Based on the results, three levels of analysis are found to reflect on female entrepreneurial activity; micro-individual, meso-organisational and macro-environmental. The findings of this chapter present the relevance of motivation, obstacles and actors to female entrepreneurs in emerging economies and provide future lines to contextualise those factors, and empirical evidence on the conditions for female entrepreneurship in the Gulf region in general and Saudi Arabia in particular.

Phase 2: *Analysing the conditions for female entrepreneurship in a Saudi context using the entrepreneurial ecosystems approach.*

Chapter 3's objective is to analyse the conditioning factors that affect women's ability and desire to become entrepreneurs in a Saudi context. this was achieved through a quantitative analysis of secondary data from the Adult Population Survey by Global Entrepreneurship Monitor (2016), and builds on the recently proposed "Entrepreneurial Ecosystem Approach," which has three levels: Institutional, organisational, and individual for analysing the entrepreneurial activity within a specific nation. The findings demonstrate a stepping-stone for understanding how different entrepreneurial ecosystem

dimensions can play a significant role in determining female entrepreneurial activity. It also presents the relationship between the variables at the three dimensions, which indicates how broader institutional conditions can either help or hinder women from becoming entrepreneurs.

Phase 3: *Building a complex view of institutional factors influencing female entrepreneurship in Saudi context by using institutional economics as a theoretical framework.*

Chapter 4 investigates the influence of environmental factors on females becoming entrepreneurs in Saudi Arabia. It highlights the role that institutions play, and continue to exercise, in developing entrepreneurial activity among female citizens. With primary data collected from women in Saudi Arabia, the results indicate that informal institutions (fear of failure, female role models and family support) have a more significant influence in comparison to formal institutions (intervention policies and unbanning driving), on the involvement of females in entrepreneurial activity.

Chapter 5 examines the influence of formal and informal institutional factors on entrepreneurial activity among both men and women in a Saudi context. Primary data and a binary logistic regression are used to measure the differences between genders. Based on the findings, women are less aware of government support and more likely than men to be stereotyped and benefits from the personal network for becoming entrepreneur. Thus, the effect of informal institutions factors remains more reliable predictors for woman's behaviour toward entrepreneurship.

Finally, Chapter 6 focuses on investigating how the perception of reform policies affect female entrepreneurs and how this effect can be mediated through family support and social image. The literature providing the basis for this chapter focuses on the institutional environment, and obtains a deeper understanding of the direct and indirect relationship between perceived reform policies and female entrepreneurs, we apply exploratory factor analysis and structural equation modelling as techniques for analysis. Our analysis confirms that women’s perception of reform policies is fully mediated through social image and family support. The interaction between formal and informal institutions empirically explains that the perception of reform policies depends on cultural values and societal approval.

Chapter 2

2 Female Entrepreneurial Activity in Emerging Economies: A Systematic Literature Review

2.1 Introduction

Over the years there has been a gradual increase in levels of female self-employment that is noticeably reflected in countries' economic and social development. The GEM yearly report that concerned about individuals' and nations' entrepreneurial activity noted that the number of females who are in the process of starting, or who have already started a firm, increased from 187 million in 2010 to 263 million in 2014 (Bosma and Levie, 2010; GEM, 2017). The review of the literature shows a parallel increase in research concerning women entrepreneurs from developed nations (Al-Dajani and Marlow, 2010; Tlaiss, 2015:among others). Thus, this study offers an analysis of the existing literature on women entrepreneurs within emerging economies.

The relevance of women entrepreneurs to economic development in developed nations led us to develop this systematic research. Given that, this chapter's objective is to explore what the condition of female entrepreneurs in emerging economies is, and what future studies should focus on. Based on the literature review, emerging economies as those with the resources and capabilities of developed countries but who have not yet achieved their plan. This chapter therefore aims to provide three contributions. First, it provides updated insights on women's characteristics, motivations and obstacles. The analysis of the articles provides a solid background to identify the most critical factors to understand the role of female entrepreneurs in emerging economies. Second, the protocol and approach the study followed (Thorpe et al., 2005; Tranfield et al., 2003) helps to ensure robust criteria for the selection of articles. Lastly, this research provides a perspective of studies from the last ten years that can build a robust view of entrepreneurial conditions for women within their nations.

The review of the literature showed that the studies fell into three levels of analysis to provide an understanding of female entrepreneurs. First, at the micro level, investigations focused on the qualities possessed by individuals for business creation (Itani et al., 2011; Naser et al., 2009; Westhead and Solesvik, 2016; Zamberi Ahmad, 2011). These individual characteristics are framed by human capital theory (Becker, 2009). Secondly, at the meso, studies sought to measure the resources and capabilities that female entrepreneurs need when establishing and running firms (Bardasi et al., 2011; Lee et al., 2016; Rodríguez Gutiérrez et al., 2014). Finally, at the macro level, studies have considered the social, political and economic environmental factors relevant to female entrepreneurs (Aidis et al., 2007; Al-Dajani and Marlow, 2010; Welsh et al., 2014). The review documents how, at the macro level, the use of institutions is framed explicitly and implicitly as a way to understand entrepreneurial activity (North, 1990; 2005; Scott, 2014; among others).

The chapter is split into four sections. The following section contains the study method, approach, and the analysis of articles. The third section incorporates the results divided into three levels of analysis (micro-individual, meso-organisational, and macro-environmental). The final section includes the conclusion along with limitations and future directions.

2.2 Methodology

The explosion of academic and practice-oriented publications in the latter part of the twentieth century has led to a need for an improved method to evaluate published research in a particular domain of inquiry (Thorpe et al., 2005; Tranfield et al., 2003). The authors suggest that Systematic Reviews (SR) are an improvement upon traditional literature reviews, for several reasons: 1) a SR is based on a peer-reviewed protocol, 2) reliability of integrated research findings is increased, 3) pre-existing reviewer bias in selecting and evaluating studies is likely be reduced due to more strict guidelines on how to select the articles, 4) an SR is able to assess and integrate the relevant literature related to the major research question being addressed (see Figure 2.1). A systematic review approach was therefore selected for this review, and the strategy and process for this are set out in the following two sections.

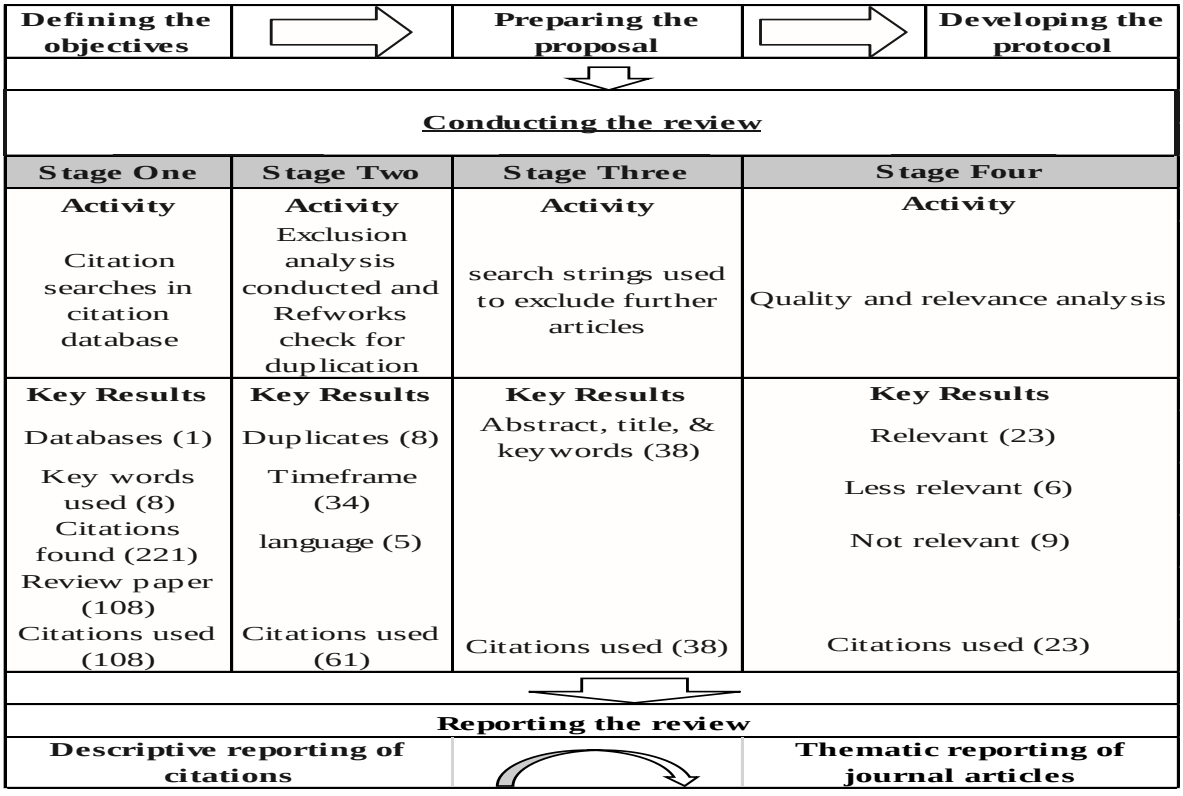

Figure 2.1 Summary of the Systematic Review Process and Results

2.2.1 Systematic Review Approach

Prior studies suggest three steps that need to be followed for an operationalised systematic review (Thorpe et al., 2005; Tranfield et al., 2003). These steps include planning, conducting and reporting the

review within several phases of activity, which are essential to presenting adequate and precise results. Tranfield et al. (2003) suggested the three stages to outline the SR, later summarised by Thorpe et al., (2005). These stages are set out below, as refined for this study, together with a fourth stage dividing the results into groups for analysis.

In the first stage, the databases selected from Web of Science, which facilitated this study to have a broader option to control the strings of search. Therefore, the search included one database and eight keywords, which follow the sequence of search steps that are presented in Figure 2.1, comprising the review protocol. The search was limited to listed articles in the 'SSCI' Social Sciences Citation Index. Choosing articles that are included in the SSCI helps to ensure the quality of the articles (Álvarez et al., 2014). The search included qualitative and quantitative studies to serve the main aim of the research and to provide extensive evidence of female entrepreneurs' conditions within emerging economies. The keywords selected to present the objective of the study were female entrepreneurship, women entrepreneur, businesswomen, gender, and emerging economy. The study was restricted to only published peer-reviewed journal articles because the primary objective of this study is to focus on high quality published work. The findings report a total of (221) citations, and only (108) reviewed papers at this stage.

Next, in the second stage, the study used RefWorks software to organise the articles, identify and remove duplicates, and create bibliographies in multiple formats (McGrath, 2006). The results showed that there were (8) duplicate studies, (5) of the articles in a different language than English, and (34) articles are not within the time chosen for the study. The search was undertaken in 2018, and included studies published from 1st January 2008, encompassing therefore a ten-year period. Additionally, 2008 marked a time of great change due to the worldwide economic crisis (Devece et al., 2016). The filtering process resulted in 61 citations that would be used in this review.

These 61 citations were selected by using eight keywords (female entrepreneurship, women entrepreneur, businesswomen, gender, and emerging economy). The study has limited the search strings to only abstract, title and keywords to restrict the scope of findings. For example, the search strings 'female entrepreneurship* AND emerging economies*' resulted in five articles out of nine articles, which were removed. Once the exclusion criteria were applied at this stage 38 documents were left.

In the fourth stage of this review analysis, it was essential to divide the findings into different groups based on relevance and our understanding of the papers. This process revealed that either some articles were not relevant to the scope of this study or too complicated to understand the objective, approach, or findings. We also looked into the introduction for some of the articles that seemed to be important but too difficult to understand. To overcome this complication, we divided the articles into three divisions. Division of 'A' included completely relevant documents, 'B' incorporated articles that were less clear or too complicated to understand, and 'C' was for studies that were less relevant and unclear. This subjective

quality and relevance analysis identified a total of 23 papers for inclusion in the systematic review (see the details in Appendix 1).

2.2.2 Analysis of Systematic Search Results

The study resulted in a limited number of articles from the top journals with high impact factor, so it was essential to seek journals that related to the scope of this review, and that are still included in SSCI. The review concluded with eleven articles that are directly related from the top journals in entrepreneurship (e.g., Journal of Business Venturing, Journal of Business Research, International Small Business Journal, Journal of International Management, Journal of Small Business Management, and Small Business Economics) and twelve directly relevant journals but not from top journals in the field of entrepreneurship. All the articles selected for inclusion in the review are detailed in Table 2.1 and Appendix 1.

Table 2. 1 Journals and Published Articles Per Year

Journal	2008-2010	2011-2014	2015-2018	Total	
				No	%
International Small Business Journal	1	0	2	3	13
Journal of Business Research	0	1	1	2	9
Journal of Business Venturing	0	1	0	1	4
Small business Economics	0	1	0	1	4
Journal of International Management	0	0	1	1	4
Journal of Small Business Management	0	1	0	1	4
International Entrepreneurship and Management Journal	0	0	2	2	9
Others	3	4	5	12	53
Total					
Number	4	8	11	23	100
%	17	35	48	100	

The reporting of the reviews are spilt into descriptive and thematic. Thorpe et al. (2005) noted that the descriptive table should include "title, area of concern, and possible implication of the study" while thematic analysis proceeds by coding each abstract adapting indicative approach. For reliability and consistency, however, the authors have coded each abstract and divided the results into different thematic categories. As seen in Table 2.2, there are four themes developed from the thematic analysis process. The first theme contains the articles that are focused on the characteristics of entrepreneurs such as age, level of education, personal character, or incentive for self-employment. In other words, human development factors. This first level represents 17 percent of the total selected studies. The second theme is categorised as organisational, which focuses on industry types, firm size, and the performance of entrepreneurs. 13 percent of the studies directly show a link to this level. The third level of analysis is defined as environmental, which represents 35 percent of the studies selected. This level considers economic, political, and socio-cultural factors determining entrepreneurship. Finally, 35 percent of the reviewed studies applied

more than one of these levels; therefore, these studies are considered as multilevel studies. Thus, the research builds up a 'landscape' for past, and present research findings to give an overview of female entrepreneurs in emerging economies.

Table 2. 2 Level of Analysis

Level of analysis	Article		Author and year of publication
	No	%	
Micro-individual	4	17	Westhead and Solesvik (2016), Syed Ahmad (2011), Itani et al. (2009), Naser et al. (2009)
Meso-organizational	3	13	Bardasi et al. (2011), Gutiérrez et al. (2014), Lee et al. (2016)
Macro-Environmental	8	35	Tlaiss (2015), Al-Dajani and Marlow (2010), Welsh et al. .2014;2016, Alam et al. (2011), Aidis et al. (2008), Karimi et al. (2013), Seedhouse et al. (2016)
Multi-level	8	35	Mehtap et al. (2017), Cavada et al. (2017), Iakovleva et al. (2013), Ramadani et al. (2015), Welsh et al. (2017), Tasi et al. (2016), Klyver et al. (2012), Nishat Faisal et al. (2017)
Total	23	100	

2.3 Results

In the light of the review, the findings show three levels existing in research into the field of entrepreneurship, which is micro-individual, meso-organizational, and macro-environmental. These terms are crucial to understand the level of the analysis presented in this literature. Table 2.3 exhibits the key findings at each level and Appendix 1 provides a detail of the sample for this literature review.

2.3.1 Micro-individual

The studies reviewed show how the impact of motivation and socio-demographic factors (e.g., self-employment, education and age) can influence women's choice to become entrepreneurs (Faisal et al., 2017; Itani et al., 2011; Naser et al., 2009; Westhead and Solesvik, 2016; Zamberi Ahmad, 2011). Human development factors disclosed the immediate environment's vital role in an individual's decision to involve themselves in entrepreneurial activity.

Many studies examined what relationship education and skills had with levels of female entrepreneurship (Mehtap et al., 2017; Naser et al., 2009; Tsai et al., 2016; Welsh et al., 2017; Westhead and Solesvik, 2016; Zamberi Ahmad, 2011). Naser et al. (2009) noted that Western countries had found a consistent a positive relationship relationship between education and women becoming entrepreneurs. In the review from emerging European economies, Westhead and Solesvik (2016) discovered that entrepreneurial education has a significant influence on both genders in terms of propensity to start firms. Women showed less intention to start a firm than men, however; and educated women are more realistic and take fewer risks than males. The authors suggested that entrepreneurial education is a key driver for

successful performance, self-confidence, motivation, knowledge and skills. In contrast, less training and less education are claimed to be obstacles to women becoming entrepreneurs.

Table 2. 3 Descriptive Analysis

Title	Key findings
Entrepreneurial motivations of women: Evidence from the United Arab Emirates	Cultural and religious values have a stronger effect on entrepreneurial motivation, and females in the UAE and GCC have a distinguished context that reflect their characteristics.
Impact of women's home-based enterprise on family dynamics: Evidence from Jordan	While women prove the concept of creating a home business, they still face some cultural limitations in a patriarchal society.
Influence of stages of economic development on women entrepreneurs' startups	There is a dependent relationship between female entrepreneurship and economic development across different nations.
Saudi women entrepreneurs: A growing economic segment	Saudi women face several obstacles due to government and cultural restrictions; however, entrepreneurial initiatives are in increasing in Saudi Arabia amongst women.
An Empirical Study of Success Factors of Women Entrepreneurs in Southern Region in Malaysia	Family support, social ties, and internal motivation are significant influential factors to predict the success of female entrepreneurs.
Female entrepreneurship in transition economies: the case of Lithuania and Ukraine	Institutions play a vital role in gender variation regarding entrepreneurial entry in transition economies.
Effects of role models and gender on students' entrepreneurial intentions	Role models affect entrepreneurial intention indirectly.
Potholes and pitfalls: The impact of rural transport on female entrepreneurs in Nigeria	Women believe that when the transportation system is weak in the country, it is an obstacle for them toward entrepreneurial activities.
Entrepreneurship education and entrepreneurial intention: Do female students benefit?	Entrepreneurial education students showed a higher drive for entrepreneurship than those who did not participate. While women show a lower drive to engage in entrepreneurial activities.
Evidence of the characteristics of women entrepreneurs in the Kingdom of Saudi Arabia	The educational background of Saudi women determines their skills to begin entrepreneurial activities.
United Arab Emirates female entrepreneurs: motivations and frustrations	Society and tradition are amongst the most vital factors for women to begin entrepreneurial activities.
Factors that affect women entrepreneurs: evidence from an emerging economy	Factors such as skills and knowledge are amongst the most critical factors to determine whether women choose to become entrepreneurs while social norms, market, network, and competition do not seem to be barriers for women in becoming entrepreneurs.
Women's self-employment: An act of institutional (dis)integration? A multilevel, cross-country study	Gender equality has a significant relationship to a gender gap in men and women self-employment choices; therefore, this relationship is related to the country development stage and industries.
How do female entrepreneurs perform? Evidence from three developing regions	Men and women differ in the size of firms they own and run, so gender gaps exist.
Strategic Capabilities and Performance in Women-Owned Businesses in Mexico	Entrepreneurial orientation in terms of market and learning orientation has a strong effect on female performance in Mexico.

Title	Key findings
Motivation Factors for Female Entrepreneurship in Mexico	Various factors are associated with women becoming entrepreneurs, which are not just limited to personal threats but more to the social and economic environment as well.
Financial availability and government support for women entrepreneurs in transitional economies	The changing environment in Russia and Ukraine have led many women to adjust to these changes in a more positive way, engorging them to entrepreneurial activity.
Female entrepreneurs in transition economies: insights from Albania, Macedonia and Kosovo	The freedom of having a choice is amongst the most essential factors to determine whether women choose to become entrepreneurs.
The influence of perceived management skill and perceived gender discrimination in launch decisions by women entrepreneurs	Women in Morocco are more likely to start a business with a family member if they are perceived as having high management capabilities while gender discrimination impacts women negatively.
Refining the linkage between perceived capability and entrepreneurial intention: roles of perceived opportunity, fear of failure, and gender	Men have perceived capability indirectly to affect their entrepreneurial intention via perceived opportunity while women do not in Taiwan; however, there are no differences between men and women in Chinese samples.
Does Gender Matter in the Export Performance of Firm-specific and Country-specific Advantages International New Ventures? Mediation Effects of Firm-specific and Country-specific Advantages	Female firm owners achieve lower export performance in comparison to males.
Entrepreneurial intentions of young women in the Arab world	The weak education system and cultural barriers are the main factors that hinder women from become entrepreneurs in Jordan.
Women's self-employment: An act of institutional (dis)integration? A multilevel, cross-country study	Gender equality has a significant relationship to a gender gap in men and women self-employment choices; therefore, this relationship is related to the country development stage and industries.

Naser et al. (2009) determined the factors affecting women becoming entrepreneurs in emerging economies with a sample of Middle Eastern women between the ages of 20 to 40 years old. They found that young women at the university-level were optimistic about involving themselves in entrepreneurial activity to extend their self-employment and self-accomplishment (Naser et al., 2009). While education is perceived to be a vital factor for women to increase their skills and knowledge, both educated females and less educated females were found not to be particularly attracted to entrepreneurial activity (Naser et al., 2009). Thus, the authors concluded that youth is accelerating the economic growth of emerging economies, particularly in the United Arab Emirates. Another study on the same nation, however, noted that education improves skills and knowledge, which positively contributes in giving women motivation to engage in entrepreneurial activity (Tlaiss, 2015).

Research from Saudi Arabia noted that there is a high percentage of educated Saudi women who are either attracted to working in the public sector or who are employed in the education sector (Zamberi Ahmad, 2011). The author stated, based on a study sample of females in their twenties and thirties, that Saudi female entrepreneurs believed that younger women are attracted to entrepreneurial activity. The

author also found that Saudi educated females represent 58 percent of the population, yet that this number has not translated into the workforce, where Saudi female participation is just 32 percent. In Jordan, however, a study found that the relationship between the education system and entrepreneurial activity needs to be more focused in the supportive learning environment than education itself as it may not be the main reason to impede women from entrepreneurial activity (Mehtap et al., 2017).

The research under review shows the links between skills and knowledge, on the one hand, and women's ability to recognised opportunities (Tsai et al., 2016; Welsh et al., 2017). Welsh et al.'s (2017) study amongst Moroccan women found that women in Morocco are more likely to start a business with a family member if they are perceived to have high management capabilities. The studies showed that perceived skills increase the confidence of women to seek a family member for starting a business. In the same line, Tsai et al. (2016) found that amongst their sample in China and Taiwan, perceived skills increase an individual's intention to start a firm due to finding or creating opportunities. The authors implicitly conclude, however, that gender does not matter for perceived capabilities, but matters more in terms of opportunity recognition.

The literature also showed that women's choice of self-employment and understanding of the motivation of self-employment is essential to a deeper understanding of why women choose to become entrepreneurs (Cavada et al., 2017; Klyver et al., 2013). In Mexico, the research determined the factors that motivated women to self-employment (Cavada et al., 2017). The study divided the self-employment decision into two parts (push and pull) through motivation theory. The push factor represents circumstances where personal or external factors, for example, losing a job due to the economic situation, make entrepreneurship a necessity. The pull factor, meanwhile, refers to the active identification of opportunities in the market. The study claimed that push factors appear to be predominant for women within developing nations while in developed countries pull factors play a greater role, with women's feelings of self-accomplishment also being a key element. Klyver et al. (2013) studied female self-employment across 61 countries. They claimed that to be able to understand female entrepreneurial activity at the country level, it is necessary to examine the relationship between the disintegration choice to be entrepreneurs and integration to family institutions. The authors also noted that self-employment can be preferable for females since it reduces dependency and increases flexibility, especially for the case of a wife or mother.

The individual-level studies, therefore, focused on human factors to understand women's motivation for becoming entrepreneurs. In the next part, the analysis moves to the meso-organisational level to explore factors of firm size and sector in so far as they are related to female entrepreneurship.

2.3.2 Meso-organisational

Another theme in the literature is the study of the character and performance of female ownership, in terms of firm size and the industries that they operate in (Bardasi et al., 2011; Klyver et al., 2013; Lee et

al., 2016; Ramadani et al., 2015; Rodríguez Gutiérrez et al., 2014). The findings showed that the organisational level is have many elements to determine female entrepreneurial activity.

Amongst several of the studies there is an acknowledgment that performance depends on resources and capability. For example, Bardasi et al. (2011) studied three developing nations to understand female performance in comparison to male performance, the metric used to determine performance was sales. The authors found that in all three developing regions, women operated and owned smaller firms than men. In two out of the three regions female business owners were on average younger than men, but there were no differences in the age of firms to explain the variation of firm performance in years between each gender. Lastly, women in all three developing regions were attracted to a specific sector, such as retail shops or restaurants.

Lee et al. (2016) further explained the export performance of Korean women compared to men. The authors discovered that female export performance is significantly lower than that of males because firms owned by males are perceived to have higher marketing capabilities and innovation in comparison to female led ones. Venture capital is also harder to obtain for female business owners, but this in itself does not affect either women's export performance or the destination country of exports.

Another study from Mexico observed that the management capabilities of female business owners were lower than those of men (Rodríguez Gutiérrez et al., 2014). The authors proposed a framework to improve female management capabilities involving entrepreneurial, market and learning orientation. Their study concluded that entrepreneurial, market and learning orientation are three capabilities significantly associated with increasing female performance in establishing and running a business.

Bardasi et al., (2011) and Rodríguez Gutiérrez et al., (2014), research summarised into three important points. First, the resources and capabilities for women to establish and run a firm vary from country to country. Second, female entrepreneurs operate smaller ventures in comparison to men in terms of the number of employees and revenue. Third, small businesses demonstrate an essential role in terms of creating an employment opportunity as they are highly dependent on labour, supplying large firms with niche services or products that are complementary to their line of production, and reducing the monopoly of large firms in the market. This leads to wealth distribution that in turn has a positive impact on the economy at the country level.

The number of females who establish and operate businesses has been increasing over the years. This phenomenon shows that countries with high levels of unemployment and low level of gross domestic product have been diversifying their revenues to rely on more than one source, and taking the path of other developed counties by expanding the female entrepreneurial activity (Iakovleva et al., 2013; Rodríguez Gutiérrez et al., 2014). According to several studies, there are several reasons why women create smaller firms in comparison to men some of these reasons include: ease of duplication, ease to organise and

implement, ease to network or advertise through friends and family, ease to lead as a sole owner or have fewer employees to manage, easy access to finance, and increased autonomy (Bardasi et al., 2011; Iakovleva et al., 2013; Lee et al., 2016; Ramadani et al., 2015; Rodríguez Gutiérrez et al., 2014).

Moving on from the resources and capabilities required for women to establishing a firm, and their performance, in the following part we systemically look wider to explore different research findings concerning environmental conditions and female entrepreneurs.

2.3.3 Macro-environmental

The review of the literature showed that different environmental factors influence the probability of women becoming entrepreneurs, including government policies, culture and economy (Aidis et al., 2007; Alam et al., 2011; Al-Dajani and Marlow, 2010; Faisal et al., 2017; Iakovleva et al., 2013; Lee et al., 2016; Mehtap et al., 2017; Ramadani et al., 2015; Tlaiss, 2015; Welsh et al., 2014; Welsh, 2016).

The first scope of macro-environmental studies to deepen the understanding of the relationship between culture and female entrepreneurs (Alam et al., 2011; Al-Dajani and Marlow, 2010; Karimi et al., 2014; Tlaiss, 2015). The studies explained culture as a shared system of beliefs, values, attitudes and norms that shape individual priorities and expectations, and which distinguish them from other groups. A study from the UAE showed that the percentage of female entrepreneurs has increased over the last few years due to government support of females entrepreneurship; yet this has to be set alongside the influence of the patriarchal society in decreasing female motivation towards business entry (Tlaiss, 2015). Evidence from Jordan shared the same view of the impact of conservative patriarchal families in limiting the number of female entrepreneurs (Al-Dajani and Marlow, 2010). More precisely, the authors' findings in respect to Palestinian women who were resident in Jordan revealed the central role of family responsibilities and how this negatively affects females' self-employment. Family and work-life balance also presents obstacles for women across Albania, Macedonia and Kosovo (Ramadani et al., 2015). Alam et al. (2011) found that the main driver of Malaysian women to entrepreneurial activity is because of the lack of opportunities in their workplace, therefore, family support, and social ties is statistically significant to motivate women towards entrepreneurial activity. Among Iranian students, meanwhile, the lack of perceived role models presents an indirect negative influence on female intention towards entrepreneurial activity. Furthermore, a study from Mexico showed that not only did conservative attitudes decrease female motivation to start a business but also a risk adverse tendency, and a lack of family support (Cavada et al., 2017). Thus, there is widespread agreement upon the negative impact of patriarchal attitudes on the propensity of women to become entrepreneurs (Al-Dajani and Marlow, 2010; Mehtap et al., 2017; Tlaiss, 2015).

Another theme in this body of literature examines the government and its role in helping or hindering female involvement in entrepreneurial activity (Faisal et al., 2017; Iakovleva et al., 2013; Mehtap et al., 2017; Seedhouse et al., 2016). For instance, Seedhouse et al. (2016) found that Nigerian women cited a lack

of government support as a key element in their lack of business growth in respect to provide a main road that is safe and accessible to different parts of the countries. Mehtap et al. (2017) suggested that, to get women involved in entrepreneurial activity, the government should focus on aspects such as establishing a market structure, policies that are not inherently biased to gender, and stability. A research study across the Gulf region countries (Emiratis, Qatar, Saudi Arabia, Oman, Bahrain and Kuwait) noted that the lack of a supportive regulatory environment is considered an obstacle for women becoming entrepreneurs; in contrast, loans with a low interest rate and fewer bureaucratic procedures with lean steps attract more women toward business creation (Faisal et al., 2017). Likewise, a study from Russia and Ukraine showed that the absence of government support services such as programmes focusing on entrepreneurship to educate individuals about business environment challenges is one of the main reason for the lack of women engaged in entrepreneurial activity (Iakovleva et al., 2013).

Furthermore, existing studies have shown an interest in understanding the impact of economics on female entrepreneurs (Aidis et al., 2007; Lee et al., 2016; Welsh et al., 2014; 2016). For example, the economic crises that occurred in Korea in the late 1980s drove many male workers towards business creation as a substitute for their loss of income; therefore, Korean female entrepreneurs were opportunity-driven while male entrepreneurs were more driven by necessity (Lee et al., 2016). A study showed that women in the Middle East had a less favourable attitude to entrepreneurial activity as a consequence of employment challenges that occurred in the region after the Arab Spring revolutions (Mehtap et al., 2017). Aidis et al. (2007) explored how women responded to the economic development of Lithuania and Ukraine, concluding that while memories of the Soviet Union had a significant influence in hindering female involvement in entrepreneurial activity, women gradually built the economy of their nations by increasing their entrepreneurial initiatives. Welsh et al. (2016) found that the level of economic development is statistically linked to different factors such as family support; for example, nations with factor-driven stages (Economies are producing mostly basic products) report a definite relationship to family instrumental support on women becoming entrepreneurs.

Finally, papers adapted different theoretical frameworks to explain the affect of environmental factors on female to become entrepreneurs (Aidis et al., 2007; Alam et al., 2011; Al-Dajani and Marlow, 2010; Faisal et al., 2017; Iakovleva et al., 2013; Lee et al., 2016; Mehtap et al., 2017; Ramadani et al., 2015; Tlaiss, 2015; Welsh et al., 2014; Welsh, 2016). Welsh et al. (2017) noted that there have been various theoretical frameworks from different disciplines to provide an understanding of female entrepreneurship phenomenon: 1) the psychological approach with the primary concentration on individual qualities (McClelland, 1961). 2) the organizational approach that seeks to analyses individuals resources and capabilities (Ucbasaran, 2008). 3) the economic approach that determines for entrepreneurs as the main key player (Schumpeter, 1911). 4) the sociological or institutional approach that found the social structure that

established boundaries and guidelines for social behavior (North, 1990 ;Scott, 2014). From the review, studies at macro-environmental level showed the interest to understand the affect of institutions to explain female entrepreneurship, though, few studies implicitly use institutional approach (Aidis et al., Lee et al., 2016).

Concisely, the following themes are evident in the studies in this area. First, government support programmes, financial support and freedom in the decision-making process are three reasons that play a vital role in motivating females towards entrepreneurial activity (Iakovleva et al., 2013; Ramadani et al., 2015). Second, culture is a statistically significant indictor of female involvement in entrepreneurship (Alam et al., 2011; Al-Dajani and Marlow, 2010; Karimi et al., 2014; Tlaiss, 2015). Furthermore, prior studies showed that different factors impede women in business start-ups, namely unfavourable social attitudes towards women working, gender-neutral barriers in terms of support facilities, and access to capital. Lastly, the Arab Spring revolutions, culture, and political instability present a negative impact on female entrepreneurship across the MENA "Middle East and North Africa" nations.

2.4 Conclusion

The purpose of this systemic review was to explore the conditions affecting female entrepreneurs in emerging economies and what future studies should focus on. These aims arise from: i) the lack of empirical evidence regarding female entrepreneurship in emerging economies, ii) the distinctive characteristics of these emerging economies. The review revealed that it was possible to group the studies based on their level of analysis: micro-individual, meso-organisational or macro-environmental, although 35 percent of the reviewed papers combined different levels of analysis.

Thus, female entrepreneurs have been analysed in the literature from different levels. The study concluded that women's contribution to economic growth is lower than men in emerging economies. The reasons vary according to the interests of different papers and from one nation to another, but still, there is a common outcome, namely a lower percentage of female entrepreneurs than male. Nonetheless, it is clear that this is an area in which there has been a gradual increase in scholarly attention.

2.4.1 Implications

Regarding the individual level, evidence exists in respect to the impact of human factors such as level of education, skills and, to a large extent, the necessary preparations for women to get involved in entrepreneurial activity. The findings also suggest that women with skills, knowledge and experience showed a higher probability of becoming entrepreneurs across emerging economies, regardless of education level and age (Faisal et al., 2017; Itani et al., 2011; Naser et al., 2009; Westhead and Solesvik, 2016; Zamberi Ahmad, 2011).

The exploratory results of this review also identified the importance of researching the characteristics and performance of women ownership in respect to firm size and industry operated in. The different

reviewed documents confirm that women entrepreneurs, in general, were attracted to the service sector and own smaller firms in comparison to men. The results indicate that there is indeed government support to small businesses with facilitation policies that distinguish them from large corporations; for example, provide a lower rate of interest for credit and loans.

At the macro-environment level, meanwhile, studies have identified a number of different factors that may help or hinder female entrepreneurs. These various national factors under the umbrella of government policies, culture, and economy, which affect the probability of women becoming entrepreneurs. Thought, a substantial review dependency exists between environmental factors exclusively to social factors compared to political and economic factors on women entrepreneurs. In other words, the primary factor women consider in entrepreneurship is social and cultural in nature. From the review, the environmental factors have the highest impact on the decision of women to become entrepreneurs.

2.4.2 Limitations and Future Research

Several limitations of this study have to be acknowledged. The articles were retrieved from the Web of Science database; therefore, the results are limited to this database, which may exclude publications from specific journals. In addition, the study is limited to the scope of the keywords used to identify the journal papers. That said, as explained by Thorpe et al. (2005) and Tranfield et al. (2003) this systematic approach is applicable for topics with a vast body of knowledge. Thus, this systematic review lends itself to identifying future research directions. These are outlined below.

First, the results of this study call for more contextualised and operational variables to fit the specific nation. Most of the reviewed papers showed a lack of operationalisation of variables; for example, the factors of developed countries may differ to those in emerging economics due to the difference in culture and different parameters used to measure success. Scholars suggest that future studies should seek to contextualise the study of female entrepreneurs within the specific cultural environment of targeted nations. In fact, the results of this chapter suggest that environmental factors have the highest impact on female entrepreneurs; therefore, investigating the influence of social, political and economic differences between different nations may help understand how female entrepreneurs can be better assisted.

Second, results from the analysis show that most of the papers lacked a theoretical framework to explain female entrepreneurs. For example, some studies on the macro-environmental influences on female entrepreneurs tend to implicitly use institutional theory but do not implement this explicitly. This suggests a need for a more explicit institutional theory-based analysis of the phenomenon of female entrepreneurship. This in turn reflects on the need for a deeper understanding of the institutional environment in emerging countries.

Third, with respect to the debate on whether female entrepreneurs tend to be attracted to smaller firms and the service sector, the results suggest that women tend to have smaller firms in comparison to men. The

review also reveals that the performance of firms owned by men is higher than the ones owned by women. This suggests interesting avenues for future studies in terms of trying to understand how innovation and market changes affect female entrepreneurial performance within emerging nations.

Fourth, since few studies have been undertaken into female entrepreneurs from the organisational levels, the results suggest that future studies need to focus more on this area so as to explain the resources and capabilities of female entrepreneurs. More precisely, the development of women's capabilities to start and run firms should be through support in the form of training and programmes to sustain those segments of the market with the potential to grow, and this offers a line for future studies interested in economic development.

Finally, with respect to most of the papers selected, the weakness of empirical findings can be best explained through the documents that have not received adequate consideration to the statistical analysis. The results suggest that future studies should develop solid empirical work to validate and give more reliability to their findings. Future scholars should facilitate a stronger base of empirical evidence relating to the entrepreneurial environment for women in emerging economies by seeking larger samples in those economies and more advanced methodologies to explain the complex relationships involved. Policymakers within emerging economies should take the initiative to invest in more research into female entrepreneurs as there is a particularly marked gender gap in most emerging economies.

Chapter 3

3 Determinants of Women Entrepreneurship: The Entrepreneurial Ecosystem of Saudi Arabia

3.1 Introduction

As noted earlier, the contribution of female entrepreneurs to economic growth and the social development of nations has not giving much attention (Bullough et al., 2017; Tlaiss, 2015; Welsh et al., 2017), and in this context, women's rights and their experiences in business ownership has become an important issue in academic discourse (Danish and Smith, 2012; Zamberi, 2011). Nonetheless, Brush and Cooper (2012) reported that less than ten percent of research studies in the field of entrepreneurship focus on female entrepreneurs and how they affect economic growth. Further evidence suggests that most developing countries support entrepreneurial activities, yet a disproportionate number of entrepreneurs in these developing countries are male (Bullough et al., 2017; Gutiérrez et al., 2014; Tlaiss, 2015). A few studies have investigated how women entrepreneurs in the Middle East are different from those in Europe and North America (Al-Dajani and Marlow, 2010). This study aims to provide empirical evidence about the conditions of women entrepreneurs in the context of Saudi Arabia.

This current chapter aims to extended female entrepreneurship research by covering several gaps. First, the Middle East and North Africa (MENA) have the lowest rate of entrepreneurial activity globally; on average, only 8.6% of the adults in these countries are involved in the early stages of entrepreneurship (GEM, 2013). Furthermore, two-thirds of businesses have been found to be male-dominated, which reveals a glaring lack of female participation in entrepreneurship (GEM, 2013). Second, while 45 percent of the Saudi population is women, 85 percent of them are university graduates and not in the labour force (Burton, 2016, p. 133). Third, there have been few studies from the Gulf Region, particularly in respect to the role of women in entrepreneurship (Bardasi et al., 2011). In addition, studies have called for further analysis of more contextualised works (Thornton et al., 2011; Welter, 2011; Zahra, 2007) and evidence of the conditions affecting women entrepreneurs in societies with significant gender inequality in the Gulf region, such as Saudi Arabia (Zeffane, 2013).

Expanding on female entrepreneurial activity can contribute in increasing the quality of entrepreneurship by presenting an opportunity for countries with high levels of unemployment and low levels of gross domestic product to identify and develop new revenue sources to diversify their economy (Iakovleva et al., 2013; Gutiérrez et al., 2014). In Saudi Arabia, the ratio of female entrepreneurs is considered low compared to other countries (Zeffane, 2013). This is caused by several reasons, but most importantly the fact that Saudi Arabia is the heart of the Islamic world, one of the most important suppliers of energy resources globally, and a political power in the Middle East (Burton, 2016). The Saudi economy has relayed heavily on natural resources and industrial economy concentrated in the hands of a few large corporations (Burton, 2016). As noted earlier, in the past years, the government of Saudi Arabia has noticed

this lack of diversification in the economy and commenced the ambitious framework, Vision 2030, for economic expansion and diversification. A key element of this strategic framework is to increase the proportion of Small and Medium Enterprises 'SMEs' and to give equal opportunity to both sexes (Vision, 2016). This indicates that the Saudi government has observed the lack of equal opportunities for women and the absence of SMEs and is seeking to address that. Therefore, ecosystems may fail to provide their full potential if they do not successfully provide male and female equal opportunities to create their venture with a supportive environment and rules for SMEs. Currently, however, there is a lack of evidence with respect to what changes will have the most impact on female entrepreneurs in Saudi Arabia (Welsh et al., 2014; Zamberi, 2011; Zeffane, 2013; Zeidan and Bahrami, 2011). Using empirical evidence from Saudi Arabia in the components of the entrepreneurial ecosystem on women's entrepreneurial activity will, therefore, establish a foundation for future studies in the region.

While the specific objective of this chapter is to analyse the conditioning factors that affect women's ability and desire to become entrepreneurs in a Saudi context, it is important to identify the theoretical framework within which these factors can be identified and conceptualised. As mentioned earlier, this chapter of the thesis uses the Entrepreneurial Ecosystem (EE) approach (Isenberg, 2010; Brush et al., 2019). The EE approach was adopted for three reasons: 1) the disadvantage of women in regard to the entrepreneurial ecosystem, 2) the different attributes that gender encompasses and 3) the increase body of research that investigates female entrepreneurship using this approach (Brush et al., 2019). The research examines this topic from the national level, applying a multi-level analysis of the individual, organisational and institutional dimensions to provide an understanding of the conditions that influence women's choice to become entrepreneurs in Saudi Arabia. The results of this chapter can help to determine the main factors from other researches that might affect the relationship between female entrepreneurship and entrepreneurial ecosystem. Also, the results will help to further the development of entrepreneurial ecosystem in terms of providing policy makers a view of providing gender-specific policies to encourage entrepreneurial activity.

This chapter is organised as follows. Section 2 presents the results of the literature review, according to the three levels that were analysed. Section 3 explains the database and the methodology used to examine empirically the effect of the individual, organisational and institutional dimensions on Saudi women becoming entrepreneurs. Section 4 reports the results of the analyses. Section 5 presents a discussion of the subject. Section 6 presents the conclusion, policy implications, suggestions for future research and the limitations of the study.

3.2 Theoretical Background and Development of Hypotheses

The global increase in entrepreneurial activity has positive correlations with improvements to the institutional environment in countries (Gupta et al., 2009). Policy makers and scholars are now gaining

more recognition to the relevance of different factors on developing a country system for supporting individual attitude, ability and aspiration towards entrepreneurial activity (Audretsch and Belitski, 2017; Auerswald, 2015; Brush et al., 2019). Berger and Kuckertz (2016) stated that individual entrepreneurial action often require a complex system with a multitude of factors that includes institutional and other actors that need to be taken into consideration for business start-ups. Audretsch and Belitski (2017) embraced past research on the requirements of business start-ups. According to their research, the creation of new ventures is a result of establishing vibrant ecosystems for business start-ups in a local country context, which requires understanding both entrepreneurial individual action, and contextual factors. The individuals action is composed of the attitudes towards a business and opportunity reconnection (Wright, 2014; Wright and Stigliani, 2013); however, the local context is often driven by opportunity or necessity for business start-ups, and how fast the business can grow (Audretsch and Belitski, 2017). Based on the literature, the creation and growth of new venture is a result of a vibrant entrepreneurial ecosystem, which composes of private and public players that nurture and sustain the entrepreneurial fabric.

As noted earlier, the entrepreneurship ecosystem concept was created to develop policies, and programmes that promote entrepreneurial activity and motivate individuals to start businesses (Isenberg, 2014). Several scholars attempted to define the components of entrepreneurial ecosystems (Berger and Kuckertz, 2016; Feld, 2020; Isenberg, 2010). Each study above developed an entrepreneurial ecosystem framework and focused on analysing its different levels, which shows that the entrepreneurial ecosystem is multidimensional and dynamic. Underlying most of these entrepreneurship ecosystem frameworks is the assumption that all entrepreneurs can have equal access to resources and the opportunity to launch a start-ups; however, such factors differ from country to other. GEM (2017) demonstrates that the rate of females start-ups is significantly lower than males in 74 countries. Furthermore, only 20 percent of women launch their venture ideas based on necessity rather than an opportunity. According to Brush et al., (2019) the lower proportion of female entrepreneurs is a result of the characteristics in the ecosystems such as the institutions, economy, policies and programs. For example, economic support for childcare might motivate more women toward entrepreneurial activity. Aldrich and Cliff (2003) argue that the family system characteristic is influenced by attitude, norms and values; therefore, it is important for high-growth ventures. In other studies, it is evident that women do not receive equal treatment like men when they require debt financing in terms of their loan size or collateral requirements (Coleman and Robb, 2012; Treichel and Scott, 2006). These apparent negligence cannot be sustained without an efficient entrepreneurial ecosystem containing the elements necessary to support women towards successful entrepreneurship and thus speeding up economic development (Auerswald, 2015; Brush et al., 2019; Isenberg, 2010).

The current chapter builds on the recently proposed framework of "Entrepreneurial Ecosystem Approach" (EE) (Brush et al., 2019). Using this framework enables the author to examine the complex relationship of related factors to female entrepreneurship within different components of entrepreneurial ecosystems. Therefore, the result of linking female entrepreneurship and EE benefits policy makers to stimulate female entrepreneurship on a national level. Also, it represents the possibilities of analysing different levels to give a richer view of the condition of women's entrepreneurial activity in the context of a country that is seeking to focus on business creation among young people, particularly women (Vision, 2016). Given that, Brush et al., (2019) suggest that there are three major dimensions of the EE framework for measuring the vibrancy of a local entrepreneurial ecosystem, which are individual, organisational and institutional. These dimensions can be used to examine the entrepreneurial activity within a given context, including in respect to women (Brush et al., 2019; Isenberg, 2011; Neck et al., 2004). The favourable combinations of these three dimensions present a vibrant entrepreneurial ecosystem; therefore, reflects an increase in the likelihood of women to be starting a business from opportunity (Berger and Kuckertz, 2016; Brush et al., 2019).

The following sections explain what the literature has to say about the roles of the three dimensions of the entrepreneurial ecosystem (individual, organisational and Institutional) in shaping female behaviours and attitude to entrepreneurship (Appendix 2 includes a list of studies used that focused on female entrepreneurs).

3.2.1 Individual Dimension

The individual level plays a central role in the EE approach in terms of individuals' decisions and direction in respect to entrepreneurship (Isenberg, 2010; Brush et al., 2019). Prior literature has shown that individual factors are a vital element in women's decisions toward entrepreneurial activity (Gallant et al., 2010; Mehtap et al., 2017). These factors define human development while human development describes the factors that improve individual well-being. Hence, prior literature found various factors have significant effects on individual decisions to be involved in entrepreneurial activity. Based on the factors identified in the literature, the effect of individual factors have been divided into two parts: i) higher education, ii) skills, knowledge and experience.

The individual level plays a central role in the EE approach in terms of individuals' decisions and direction in respect to entrepreneurship (Isenberg, 2010; Brush et al., 2019). Prior literature has shown that individual factors are vital elements in women's decisions towards entrepreneurial activity (Gallant et al., 2010; Mehtap et al., 2017). The World Economic Forum (WEF) (2013) found eight components of entrepreneurial ecosystem, which includes human capital and the major chosen in university as a catalyst. In other words, the "education level" of the venture owner is considered to be the most important pillar to the growth of early-stage ventures. In the report, human capital is identified as the management skills and

work experience that individuals gain. In contrast, education level is defined as the key role in providing individuals for idea-formation in new ventures, and "culture of respect for entrepreneurship." Similar to WEF's work, Isenberg's model (2011) describes human capital as a primary domain of EE. This component of the model is gained through training, experiences, and inspirational entrepreneurial success stories. Additionally, Isenberg's model endorses education as a part of human capital. Thus, the individual factors of entrepreneurship ecosystem play an important role in encouraging or preventing business formation and development (Brush et al., 2019). Based on the literature, the effect of individual factors has explained by two parts: i) higher education, ii) skills, knowledge and experience.

The first part of human development at the individual level is women's choice of higher education. Education is a key driver to empower women towards entrepreneurship, resulting in economic growth (Danish and Smith, 2012). Westhead and Solesvik (2016) explored the influence of entrepreneurial education among Ukrainian female entrepreneurs in comparison to males; they discovered that education has a positive effect on skills development for both genders. In the case of risk, their study found that educated female entrepreneurs are more realistic and less willing to take risk in comparison to male entrepreneurs. Unger et al. (2011) concluded that there is a positive relationship between education and entrepreneurial success, and higher education can result in a higher ability to recognise opportunity (Autio and Acs, 2010). Additionally, educated individuals are more likely to gain self-confidence (Westhead and Solesvik, 2016). In comparison, Zamberi (2011) reported that educated Saudi women account for 58 percent of the total population compared to men. The Ministry of Saudi Statistics (2017) states that the number of women who were completing their university education is higher than men by 12 percent. A study by Danish and Smith (2012), however, argued that although there have been improvements in the level of higher education among women in Saudi Arabia in recent years, supported by government scholarships, this has not led to an increase in the proportion of women in the job market.

While higher education plays a prominent role in fostering entrepreneurial dynamics through multiple channels, including human capital (Korosteleva & Belitski, 2017), higher education represents one of the two major factors at the individual level of the entrepreneurial ecosystem (Isenberg, 2011; WEF, 2013). At the individual level, educated individuals are found more likely to have a successful business (Parker, 2018). A study into the effect of higher education on entrepreneurial dynamics revealed that the relationship between higher education and entrepreneurial activity reflects on the owner-level of education, area-level of education and knowledge spillovers (Doms et al., 2010). Furthermore, the study declared that educated individuals have a higher chance to survive and expand their business. Thus, the level of education establishes core individuals within entrepreneurial ecosystem by allowing individuals to adapt faster to changes in market conditions and provide the knowledge needed to be capable of starting and running a business. The intent of these benefits highlighted above, is to reveal the impact of higher education on

individuals. In addition, the correlations between education and entrepreneurship aids the discovery of how the level of education impacts women in launching their businesses. This is relevant to women in Saudi Arabia because of the recent several changes of the Saudi entrepreneurial ecosystem (Vision, 2016).

The second part of human development at the individual level is represented by the skills, knowledge and experience that women gain over their lifespan (Urbano and Alvarez, 2014). Danish and Smith (2012) identified skills, knowledge and experience as crucial elements in women's entrepreneurial activity and noted that the development of such skills explained the improvement in the quality of women's opportunity recognition. Based on their research findings, Saudi women entrepreneurs found defending their administration skills was a harder obstacle than acquiring funds, but women with fewer skills were less likely to be confident in acquiring finance reducing their chances of starting up a business. Another significant advantage of gaining skills, knowledge and experience is increasing the confidence of entrepreneurs in respect to venture creation (Gnyawali and Fogel, 1994). Welsh et al. (2017) reported that, for individuals, the importance of belief in the ability to manage firms with skills needed resulted positively in self-confidence while the lack of self-confidence among women in a developing country was noted for impeding them toward business creation.

The WEF report (2013) emphasizes that recognizing skills for starting a new venture is one of the most important pillar within the entrepreneurial ecosystem. Verheul et al., (2002) proposed that the skills needed to start a venture provide the abilities for entrepreneurs to discover entrepreneurial opportunities. Ecosystems provide entrepreneurs with skills and resources (Korosteleva and Belitski, 2017), as there is a direct link between entrepreneurs and the behaviour created by environment or "ecosystem" (Brush et al., 2019). Following Isenberg's (2011) model, human skills present an important part of self-sustaining entrepreneurship. Thus, women who have obtained the skills and experience are more likely to have high growth ventures (Brush et al., 2019).

Based on the literature, higher education and skills are primary components of human development, we argue that these components define the core of individuals at this level in the EE; therefore, we expect these elements to have a positive relationship to women's involvement in entrepreneurial activity. Based on the explanation above, we propose the following hypotheses:

Hypothesis 1a: *At the individual level, there will be a positive relationship between higher education and the probability of female participation in entrepreneurial activity.*

Hypothesis 1b. *At the individual level, there will be a positive relationship between skills and the probability of female participation in entrepreneurial activity.*

3.2.2 Organisational Dimension

The organisational level of the entrepreneurial ecosystem explicitly highlights the effects of different practices and environments on gendered experiences within organisations; therefore, affecting the

women's choice of the business size, and the sectors they work in (Brush et al., 2019). Organisations can present value within entrepreneurial ecosystem by providing training programmes and the support needed for emerging new ventures (Feld, 2020; Stam and Spigel, 2016). Although such resources demonstrate evident importance in the dynamic of the entrepreneurial ecosystem, gender plays a hidden role in organisations, as one gender might benefit or not from it. The study summarises this role of gender within organisation is demonstrated in three ways: i) the predominance of one gender to be in specific organisations and occupation (Acker, 1990), ii) the descriptions of organisations to be exclusive for males or females (Kanter, 2006), iii) the distinguished management practices within organisations for each gender (Britton, 2000). These practices affect women within certain sectors creating an inherent gender bias in the development of an entrepreneurship ecosystem (Brush et al., 2019).

Within an entrepreneurship ecosystem, small business and service sectors from organisational level present the initial elements that attract more entrepreneurial ventures (Feld, 2020; Isenberg, 2010; Stam and Spigel, 2016). First, small businesses have an important role in terms of creating employment opportunities as they are highly dependent on labour, supplying niche or complementary goods to the market, reducing service and commodity gaps and creating competition, thereby reducing the likelihood of an inefficient monopoly (Rodríguez Gutiérrez et al., 2014; Danish and Smith, 2012). In Saudi Arabia, there has been a shift in the institutional environment that resulted by the creation of several initiatives to accelerate investment into SMEs in terms of funding, training, registration policies and more. These initiatives were placed after the government observed a lack of equal opportunities for women in the market to motivate young people, particularly women, towards business creation (Vision, 2016). All of this leads to economic stimulation which improves the national development on multiple levels (Gutiérrez et al., 2014) and results in dynamic EEs. According to Danish and Smith (2012) attracting more women in comparison to men to smaller businesses is more favourable because it is a niche market with low competition. In addition, it is easy to duplicate, organise and implement, or even to network and advertise through the connection of friends and family. As has been mentioned, Gutiérrez et al. (2014) suggest that empowering females to create businesses represents a way for a country with a high level of unemployment and low gross domestic product to diversify its revenue sources. Currently, however, the economic contribution of SMEs in Saudi is far lower than in Western countries (Danish and Smith, 2012). Tlaiss (2015) reported a lower percentage of females owning and managing firms in Arab countries in comparison to males, and this is caused by many obstacles such as access to funds, knowledge, skills etc., these obstacles lower female involvement in entrepreneurial activity. Therefore, the study suggests that the lower rate of SMEs in Saudi Arabia may be due to the economic conditions of Saudi, which has an abundance of capital investment and few low wage employment opportunities.

Second, with increasing dependency on service sectors, many opportunities are there for new entrepreneurial ventures. Acker (1990) notes that the area of servicing is gendered in entrepreneurship ecosystem. For example, in Muslim countries, workplace facilities are segregated between men and women due to current cultural practices. This may cause women to be less likely to have the opportunity to develop their skills and the industry knowledge to start a business in a certain sector. Brush et al., (2019) argued that these horizontal or vertical divisions affect women within certain sectors and creates an inherent gender bias in entrepreneurship. Tlaiss (2015) showed that women are more focused on the service sector than men. According to Garga and Bagga (2009), the growth of the service sector in India is one of the major factors for rapid economic development there. Traditionally, however, the economy of Saudi Arabia has been driven by a few large firms related to the petroleum and gas industry (Burton, 2016, p.3). By establishing a beneficial ecosystem, Saudi Arabia has a potential area to grow and target more women entrepreneurs.

At the organisational level of entrepreneurial ecosystem, this chapter is keen to explore if the service sector and SMEs, where women entrepreneurship has made substantial contribution globally, is attractive for females in Saudi Arabia, especially with the several initiatives to accelerate investment into SMEs and female entrepreneurship (Vision, 2016). The author argues that the presence of this support and initiatives will have a positive effect on building a beneficial entrepreneurial ecosystem in Saudi Arabia and thus increase women's entrepreneurship in establishing more small firms within the servicing sector, thus hypotheses:

Hypothesis 2a. *At the organisational level, there will be a positive relationship between the small firm size and probability of female participation in entrepreneurial activity.*

Hypothesis 2b. *At the organisational level, there will be a positive relationship between the service sector and probability of female participation in entrepreneurial activity.*

3.2.3 Institutional Dimension

The vital impact of institutions in facilitating entrepreneurial behaviours, and finding the right balance between appropriate regulation of the market and curtailing investment due to excess bureaucracy, is essential in creating an atmosphere encouraging entrepreneurial activity whilst allowing free market movement and competition. The appropriate balance will, overall, "reduce the cost of transactions, uncertainty, and risks of individuals behavior" (Brush et al., 2019). According to Urbano et al. (2019), the role of institutions is to generate an attractive ecosystem for entrepreneurial activity, but they need to be explicit to understand its effects on entrepreneurship fully. Institutions encourage or discourage individuals in seeking opportunity in the market (Welter and Smallbone, 2008), as emerging new ventures and growth depend highly on institutions (Knörr et al., 2013; F. H. Stephen et al., 2005).

Following Brush et al., (2019), the institutions component within the entrepreneurial ecosystem framework is divided to three pillars, which are regulative, normative and cognitive. Based on the pervious literature these pillars can be encompasses to two elements: first, the regulative or in other words "formal institutions", second, normative and cognitive or "informal institutions" (North, 1990;2005; Scott, 1995). Accordingly, North (1990) describes institutions as "the *rules of the game* in society" and divides the concept into two aspects: formal institutions characterised by written constitutions that set boundaries for the market, and informal institutions such as unwritten "codes of conduct, or norms of behaviours" enforced by individual behaviours. Brush et al. (2019) highlighted gender roles in the entrepreneurial ecosystem as an example of the impact of informal institutions. Their study noted that there is an inherent bias in society to view entrepreneurship as a male-oriented job and this creates an obstacle for women in terms of starting businesses and reduces their opportunity recognition.

First, there are various factors to consider about informal institutions where gender plays a hidden role in (Brush et al. 2019). With this fast connection era, there is an agreement on the relationship between media to be an affective factor for attracting more female entrepreneurs. Urbano and Alvarez (2014) found in their study of Latin American nations that the media can play a role in increasing awareness of institutional reform and thus enhancing individual attraction to entrepreneurship. An empirical study from Jordan showed that female entrepreneurial activity has been increasing as a result of media attention campaigns (Al-Dajani and Marlow, 2010). Eddleston and Powell (2008) reported that the media played a vital role in gender socialisation, as much as family, friends, or school. Danish and Smith (2012) posited that the media increases the propensity of women in Saudi Arabia to see entrepreneurship as a good career choice. Thus, the media, in this sense, plays a pivotal role within the entrepreneurial ecosystem environment, encouraging the faster spreading of information and generating business ideas that result in more innovative ventures.

Second, there have been several studies that shown the fundamental role of formal institutions in establishing boundaries for individuals in the market (Faisal et al., 2017; Gnyawali and Fogel, 1994; Stephen et al., 2005; Urbano, 2006; Urbano et al., 2019). In developed countries, such as the Scandinavian nations, it is noted that entrepreneurial oriented rules and policies for registering businesses have a positive effect in increasing the dynamics of entrepreneurial activity (Ram et al., 2017). According to Van Stel et al. (2007), increased taxes and labour-force regulations have a negative influence on individuals' attractions to entrepreneurial entry. Based on earlier findings, liberal policies for business creation accelerate entrepreneurial activity by motivating individuals to start their own businesses, and thus usually result in increased employment opportunities and accelerated economic development (Stephen et al., 2005; Urbano, 2006; Urbano et al., 2019).

As explore above, Saudi Arabia has seen significant institutional change in the macro environment at a national level (Vision, 2016). This change is geared to supporting entrepreneurial activity with a particular emphasis on women. Saudi Arabia ranks highly amongst the 59 countries in terms of women choosing entrepreneurship as a good opportunity, yet females contribution to entrepreneurial activity remains low in comparison to men (Danish and Smith, 2012).

This study therefore proposes that when institutions drive environmental change by creating a more positive and friendly entrepreneurial ecosystem environment, and these changes are explicitly presented through the right channels, this motivates women to start their own ventures. Consequently, we propose the following hypotheses:

Hypothesis 3a. *At the institutional level, there will be a positive relationship between the media attention and the probability of female participation in entrepreneurial activity.*

Hypothesis 3b. *At the institutional level, there will be a positive relationship between the ease of starting and the probability of female participation in entrepreneurial activity.*

3.3 Data and Methods

As already stated, this chapter uses the Saudi Adult Population Survey, obtained from the Global Entrepreneurship Monitor, the largest study of entrepreneurial dynamics worldwide (GEM, 2016). From its inception in 1999 to date, the project has conducted more than 200,000 interviews a year and has helped develop a picture of entrepreneurial activity around the world, providing more than 300 academic and research institutions with statistical information (GEM, 2016). GEM's popularity is partly due to the yearly annual assessment of entrepreneurial behaviour and attitudes of individuals in addition to the national context and how that affects entrepreneurship in more than a hundred economies.

Utilising data from the GEM project is suitable for our objective because it allows us to build a clear-cut measure of female entrepreneurial activity within the context of Saudi Arabia. The use of GEM data as our source is consistent with the previous entrepreneurial literature, such as (Klyver et al. 2013, Welsh et al. 2016, Tasi et al. 2016). Moreover, the data is accessible and can be straightforwardly used for testing the proposed hypotheses while offering ideal measures for empirical analysis. Given that, to test the proposed hypotheses on Saudi female entrepreneurial activity, the study analysed the Adult Population Survey - Saudi dataset conducted in 2016 with a final sample of 1,564 observations with only female sample due to the unequal numbers of male and female respondents after cleaning the data. The APS consists of the collection of a questionnaire from a minimum of 2000 adults in each GEM participated country in order be a representative sample of each country. These collected questions were designed to provide information on the entrepreneurial activity in terms of attitudes and aspirations of the respondents.

3.3.1 Variables

Within the GEM data (see Table 3.1) Female Total Early-Stage Entrepreneurial Activity (TEA) is a dummy variable with a value of 1 if the female entrepreneur is an adult in the process of setting up a business they will (partly) own and/or are currently owning and managing, or if they are operating a young business (up to 3.5 years old); it is zero otherwise (GEM, 2016). This is the main index of entrepreneurial activity that is utilised by GEM. Additionally, it is commonly used in entrepreneurial studies that focuses on the individual and country level of analysis (Noguera et al., 2013, 2015). For this study, therefore, we need to measure females with TEA since this will capture the early stages of their entrepreneurial activity, including who are in the process of starting their venture and who has started and managed a venture that is less than three years and a half ago (Noguera et al., 2013, 2015).

In terms of independent variables, since the study focuses on three dimensions, individual, organisational and institutional, there are several the variables selected for control, which were age, work status, and family size to enhance the robustness of this findings. In GEM, these variables were collected as follows:

1. Age: Prior empirical evidence demonstrates that the positive relationship between young age and entrepreneurial activity, meaning that young people are more likely to become entrepreneurs (Urbano and Alvarez, 2014). The respondents were therefore asked to define their age, which is between 18 to 64 years old.
2. Work status: Empirical findings show that employed females are more likely to the enter into self-employment (Klyver et al., 2013). Thus, the respondents were asked to identify their current job status for either (full time or part-time job only) and zero otherwise.
3. Family size: Aldrich and Cliff (2003) identified three conclusions on the impact of family size on business creation: first, they found that a smaller family may assist the individual to make decisions faster to start a venture because the longer discussion networks in extended families in terms cousins, uncles, in-laws etc., may impede them from starting. Second, the study recognised that individuals with smaller families might take quicker action to start his/her venture because it is less risky to give up their salary because they have fewer responsibilities to take care of than those in large families. Third, it argued that women who have children are less attracted to returning to the workforce as they would rather spend time with their child/children because of the importance of raising of their children.

Table 3. 1 Dependent, Independent and Control Variables Discerption

Variable	Description	possible values
Dependent variables		
Female Entrepreneur	A dummy variable is one if a female entrepreneur is an adult in the process of setting up a business they will (partly) own and/or currently owning and managing or operating a young business (up to 3.5 years old); it is zero otherwise. "TEA-Female"	1. Female entrepreneur 0. Otherwise
Independent variables		
Individual dimension		
Higher education	The respondents are asked to identify the highest educational obtained:	1. Secondary education and higher 0. Otherwise
skills	The respondents are asked the following question: "You have the knowledge, skill, and experience required to start a new business."	1. Yes 0. No
Organizational dimension		
Firm size	The respondents are asked, "how many employees in the organization you work for, not include the owners? The answer harmonized into a dummy variable.	1. Small enterprise within 25 employees 0. Otherwise
Firm sector	The respondents are asked to identify in TEA which sector they are in?	1. Service sector 0. Otherwise
Institutional dimension		
Media attention	The respondents are asked the following question:" In your country, you will often see stories in the public media about successful new businesses."	1. Yes 0. No
Easy to start	The respondents are asked the following question: "In my country, it is easy to start a business."	1. Yes 0. No
Control variables		
Age	The current age of the respondents	18 to 64 years old
Work status	The respondents are asked to identify their current Job?	1. Full-time, part-time work only 0. Otherwise
Family size	The respondents are asked the following question: "How many members make up your permanent household, including you?"	

3.3.2 Data Analysis and Models

As stated earlier, this chapter implements a binary logistic regression technique to analyse the proposed hypotheses. Binary logistic regression was chosen due to the nature of the dependent variable, which is dichotomous. This technique is similar to regression analysis, but models for binary response is more specifically to better treat the case of binary dependent variables (Mitchell and Chen, 2005). In fact, models for binary response known as probability models, so that it quantifies the 'odds' of the occurrence of an event (Buis, 2010). Accordingly, the study assesses the influence of individual factors (higher education and skills), organisational factors (firm size and sector), institutional factors (ease of starting

businesses and media attention), and socio-demographic variables on the probability of female to become entrepreneurs. For model 1, the study examines the dependent variable with all control variables to analyse the main effect of socio-economic factors on our dependent variable. In models 2, 3 and 4, the study introduces the individual, organisational and institutional dimensions and control variables. Model 5 is the full model with the three dimensions, exploratory variables and control variables

3.4 Results

Table 3.2 reports the means, standard deviations and correlations. Table 3.3 reports the results of models to test the hypotheses. As shown in Table 3.2, female entrepreneurs represent an average of 11 percent of the total sample (standard deviations: 0.32). On average, they are about 35 years old, have smaller families with five members and are working full or part time.

Furthermore, we calculate the correlation matrix test to ensure that multicollinearity has been avoided, and each dimension of the independent variable is independent from all others in terms of correlation values. Table 3.2 presents the correlation matrix between all independent variables. The highest correlation is between family members and work status at (r.37), indicating no risk of multicollinearity. To substantiate this claim, we calculated VIFs (Variance Inflation Factors). The result show there to be no major issue with multicollinearity, and all VIFs are below 1.5 (Neter et al., 1996).

Cohen (1988) provided a general guideline to follow for measuring the strength of the relationship between variables. A Pearson correlation was run to measure the relationship between female entrepreneurs and each of the exploratory variables of the entrepreneurial ecosystem at different dimensions and control variables, in 1,564 females aged 18 to 64 years. The results in Table 3.2 report that there is a positive correlation between female entrepreneurs and skills, r (1,562) = .19, $p < .01$, at the individual dimension. There was a positive correlation between female entrepreneurs and firm size, r (1,562) = .52, $p < .01$, and firm sector r (1,562) =.12, $p < .01$, at the organisational dimension. Finally, the factors at the institutional dimension present a correlation to female entrepreneurs in terms of the media at r (1,562) =.14, $p < .01$ and being easy to start a business with an r (1,562) =.14, $p < .01$. Higher education, however, showed no correlations to female entrepreneurship.

Table 3. 2 Descriptive Statistic and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
Female Entrepreneur	.11	.32	1									
Higher education	.43	.49	-.02	1								
Skills	.65	.48	.19***	-.02	1							
Firm size	.05	.22	.52***	-.01	.14***	1						
Firm sector	.03	.16	.12***	.06**	.09***	-.02	1					
Media attention	.72	.45	.14***	.04*	.25***	.10***	.07***	1				
Easy to start	.74	.44	.14***	-.06*	.28***	.11***	.01	.23***	1			
Age	34.95	10.14	-.05*	.03	-.02	-.02	.02	.01	-.06*	1		
Work status	.79	.40	.17***	.16***	.08**	.11***	.08***	.11***	-.04*	-.09***	1	
Family size	5.38	1.49	-.09***	-.04*	.02	-.09***	.01	-.05**	.01	.37***	-.12***	1

***significant at p ≤ 0.01; **significant at p ≤ 0.05; *significant at p ≤ 0.10.

Therefore, the chapter is interested in analysing the conditioning factors that affect women's ability and desire to become entrepreneurs in a Saudi context based on the entrepreneurial ecosystem model. As the dependent variable is binary by default, the study utilised the result of different levels by using the binary logistic regression model as a technique for analysis. Besides which, the study calculated robust standard errors that report any biases and inconsistencies due to heteroscedasticity (King and Roberts, 2015). Table 3.3 reports the results of the five models in respect to the proposed hypotheses. The predictability of the models ranges between 88.55 percent and 91.88 percent, indicating that they are acceptable.

Model 1 includes only the control variables. Following Urbano and Alvarez (2014), we added the sociodemographic characteristics of the females in terms of age, work status and family size. The model is significant ($p < .01$) with pseudo *R*- squared 0.0675 and likelihood -518.78, and correctly predicts the responses at 88.55%. Thus, the result is consistent with the existing literature on the importance of socio-demographic characteristics of family size and work status in predicting the likelihood of women becoming entrepreneurs (Aldrich and Cliff, 2003; Klyver et al., 2013). Based on the model, we can conclude that there is a positive correlation between having a job and becoming an entrepreneur, and a negative correlation with family size. Finally, no correlation was found between age and the likelihood of entrepreneurship. This might have been caused by the different age categories of females entering the market, such as wives with children, who are older, and single women who are younger.

In model 2, we included variables encompassing the individual dimension (higher education, and skills) and the control variables. The model shows a highly significant ($p < .01$) relationship, with increasing the pseudo *R*- squared 0.1280 and decreasing log-likelihood at -485.13 and has correctly similar to model 1 to predict the responses at 88.55%. In model 2, the control variables show no change. Higher education, however, reports a statistically significant relationship to entrepreneurship with a negative sign ($p <.10$), while skills knowledge and experience show a higher statistical significance with a positive sign ($p <.01$).

Model 3, we follow the same process of model 2, and we entered variables encompassing the organisational dimension (firm size and firm sector) and the control variables. The model is also significant and has higher prediction probability to the responses and higher pseudo *R*-squared than models 1 or 2. It performs better in predicting responses at 91.88% and shows a higher pseudo *R*-squared at 0.2690. The control variables in terms of age and work status remain unchanged their coefficients while family size decreases its coefficient at -.11 with ($p <.10$). Thus, the organisational domination representative variables, which are the firm size and firm sector, exhibit high statistical significance in respect to entrepreneurship with a positive sign ($p <.01$).

Similarly, to explain the effect of the institutional dimensions, we included two variables (ease of starting a business and media) and the control variables in model 4. The model shows a higher pseudo *R*-

squared than model 1 but lower than models 2 and 3 to explain the likelihood of women becoming entrepreneurs. The model correctly predicts responses at 88.55% with a Log-likelihood -490.23, indicating a fairly accurate model. In model 4, the results report that all the variables of the institutional dimension are strongly significant (p <.01), with a positive coefficient, as expected. We noticed, however, that the coefficient of age and work status remained unchanged, but the family size coefficient increased to be higher than models 1 and 3, but lower than model 2.

Model 5 is the full model that contains all the direct effects of the different dimensions and the control variables, together with all the significant variables to test the probability of women choosing to become entrepreneurs. The Model is statistically significant with a p-value of 0.000 and has a higher pseudo R-squared at 0.3096 than the previous models and shows a prediction of response at 91.88%. As a result, the control variables in terms of age have still not changed; but the coefficient of work status and family size decreased. Therefore, this shows that women's probability of becoming entrepreneurs is influenced by smaller families and working full time or part-time. To measure the influence of individuals factors on the entrepreneurial ecosystem for women to become entrepreneurs, two hypotheses were proposed: H1a. there will be a positive relationship between higher education and the probability of female participation in entrepreneurial activity, and H1b. there will be a positive relationship between skills and the probability of female participation in entrepreneurial activity. As shown in model 5, skills, knowledge and experience present strong positive relationships and are statistically significant factors (p < .01), while higher education show negative relationships and is not a statistically significant factor (p > .10), in the probability of women becoming entrepreneurs. Thus, hypothesis 1a is not supported while hypothesis 1b is supported. Therefore, the impact of the individual factors of the entrepreneurial ecosystem on women entrepreneurship is partially supported. Regarding the organisational level, there are also two proposed hypotheses: hypothesis 2a**.** there will be a positive relationship between the small firm size and probability of female participation in entrepreneurial activity, and hypothesis 2b. there will be a positive relationship between the service sector and probability of female participation in entrepreneurial activity. The result reports a positive and significant outcome for the predictor variables (p < .01). Accordingly, hypothesis 2a and 2b are strongly supported. Lastly, two other factors have been chosen to measure the impact of the institutions level on women's entrepreneurship: hypothesis 3a. there will be a positive relationship between the media attention and the probability of female participation in entrepreneurial activity, and hypothesis 3b. there will be a positive relationship between the ease of starting and the probability of female participation in entrepreneurial activity. As shown in table 3, the variables considered for this level are all statistically significant. Consequently, hypothesis 3a and 3b are supported. Summarising the empirical findings, therefore, the results support hypotheses 1a, 2a, 2b, 3a and 3b.

Table 3. 3 Results of Predicting Female Becoming Entrepreneurs

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Individual										
Higher education			-0.27*	0.17					-0.23	0.17
Skills			1.71***	0.26					1.09***	0.25
Organizational										
Firm size					3.79***	0.29			3.47***	0.32
Firm sector					1.69***	0.35			1.48***	0.38
Institutional										
Media attention							0.87***	0.25	0.42*	0.27
Easy to start							1.36***	0.28	0.84***	0.28
Control variables										
Age	-0.02	0.01	-0.02	0.01	-0.01	0.01	-0.02	0.01	-0.01	0.01
Work status	2.80***	0.59	2.79***	0.59	2.36***	0.62	2.79***	0.59	2.41***	0.64
Family size	-0.17***	0.06	-0.20***	0.06	-0.11*	0.07	-0.18***	0.07	-0.12*	0.07
Number of obs.	1,564		1,564		1,564		1,564		1,564	
Pseudo *R2*	0.0675		0.1280		0.2690		0.1188		0.3096	
Log-likelihood	-518.78		-485.13		-406.70		-490.23		-384.09	
Wald chi2	40.16		84.45		207.71		74.98		208.97	
Percent correctly predicted	88.55%		88.55%		91.88%		88.55%		91.88%	

Note 1: ***significant at $p \leq 0.01$; **significant at $p \leq 0.05$; *significant at $p \leq 0.10$
Note 2: Robust standard errors in the parentheses (heteroscedasticity-corrected)

3.5 Discussion

The chapter has analysed the conditioning factors that affect women's ability and desire to become entrepreneurs in the Saudi context. Although there has not been extensive research on the entrepreneurial ecosystem (Audretsch and Belitski, 2017), the consensus is that individual, organisational and institutional elements of the ecosystem are critical to entrepreneurship. This study therefore focuses on variables linked to these elements to assess their effect on the probability of females becoming entrepreneurs. The results showed the direct effects of three different dimensions: i) human development factors at the individual dimension, ii) firm sector and size at the organisational dimension, iii) ease of starting a business and media attention at the institutional dimension in increasing women's willingness to engage in entrepreneurial activity.

After analysing the sample and testing hypotheses, the study found the most significant indicators of entrepreneurial ecosystem factors. Model 5, which had all the variables and control factors included, had the highest accuracy of the five models tested. This demonstrates that one level of analysis cannot determine the factors that drive increased female activity in entrepreneurship. At this time, however, women remain in the early stage of entrepreneurial activity, which is further evolving and being accelerated with the current policies of the Saudi government (Vision, 2016).

The empirical findings improve existing knowledge in several ways. In contrast to other studies, this study examines three dimensions from different levels by employing the entrepreneurial ecosystem approach (Brush et al., 2019). In addition, this study is among the first to capture the recent changes and provide the favourable conditions for Saudi female entrepreneurs. Previous studies have used specific samples from either before the changes in the institutional environment of Saudi Arabia (Welsh et al., 2014; Danish and Smith, 2012; Zamberi, 2011), or have focused on specific small sized samples (Welsh et al., 2014; Danish and Smith). Second, this study contributes in advancing the application of the entrepreneurial ecosystem approach on conditioning factors that affect the pursuit of female entrepreneurship, specifically using the three dimensions (Brush et al., 2019). By employing the entrepreneurial ecosystem approach, this chapter presents empirical evidence on a framework that gives more insight into the diverse factors affecting women in entrepreneurship at different levels from individual to organisational to institutional. In other words, the use of the entrepreneurial ecosystem approach, in this paper, helped discover the multidimensional factors affecting women entrepreneurship through presenting empirical evidence. Based on these evidence, major implications appear on policy makers, as they are urged to consider the multidimensional factors examined in this study in order to potentiate a favourable entrepreneurial ecosystem that will increase women's probability of becoming entrepreneurs.

3.6 Conclusion

The findings of this chapter serve to give a clear view of the different factors at different dimension and their effect on women becoming entrepreneurs in Saudi Arabia. The research used the entrepreneurial ecosystem approach in order to apply and understand the interaction on multiple levels. The findings advance entrepreneurial research by empirically examining factors that influence women to become entrepreneurs within a fast-growing emerging economy, outside of the usual European and North American context of entrepreneurship research, and characterised by significant changes in the institutional environment. It sheds light on the relationships between the probability of Saudi women becoming entrepreneurs and human development at the individual level, the firm size and sector at the organisational level, and media attention and the ease of starting businesses at the institutional level.

To sum up, this research is among the first to empirically examine the impact of the different levels of the entrepreneurial ecosystem on women’s decisions to be involved in entrepreneurial activity in Saudi Arabia. The conditions facing women were noted according to their interaction and the behaviours of the three different dimensions. This study indicates how broader institutional conditions can either help or hinder women to becoming entrepreneurs in relation to these variables; therefore, it demonstrates how the entrepreneurial ecosystem environment can play an important role in determining female entrepreneurial activity. The evidence derived from this study will result in implications on the entrepreneurial ecosystem to further develop a favourable environment that will encourage the pursuit of women entrepreneurship.

3.6.1 Policy Implications

Government policy has a huge impact on a country's levels of entrepreneurial activity, social development and economic growth. The findings of this chapter show that obtaining the necessary skills and knowledge to start a business helps to increase opportunity recognition in an individual; therefore, the probability for women to engage further in entrepreneurial activity increases. Accordingly, our study suggests that policymakers should invest in developing the skills of women in society. This can be done by increasing training programmes from school to university level, since this will help to give women the confidence to engage in the workforce and develop business skills.

The study confirms the capability of Saudi women to run and manage small and medium-sized firms and their attraction to the service sector (Rodríguez Gutiérrez et al., 2014; Zamberi Ahmad, 2011). The positive attraction of firm size and sector was expected, since many previous studies have highlighted this. The Vision2030 plan highlighted the importance of SMEs for economic development, and Saudi Arabia's increased focus on this suggests policymakers will structure new legislation in a way for it to be easier to start and manage a small business (Vision, 2016). If policymakers continue to invest in new business-friendly policies, it is likely that the number of women attracted to business creation will increase.

According to Mehtap et al. (2017) and Zamberi (2011), the market structure, access to finance, fair and neutral legislation without inherent gender bias, reduced bureaucracy, better support services, and stability in legislation and economics will encourage individuals into entrepreneurial activity. The institutional dimension is therefore a vital component in increasing women's probability of becoming entrepreneurs. Policymakers should invest in social media content covering the stories of female entrepreneurs who have established their firms successfully. Also, policymakers should adopt a media policy highlighting the services offered by different government agencies and their improvement of the registration and procedures for business creation. This type of media coverage will motivate women to become entrepreneurs as it will counteract the stereotype of entrepreneurship being mainly for men, and the limited job of women as homemakers (Eddleston and Powell, 2008; Tlaiss, 2015).

3.6.2 Limitations and Future Research

Although the study is intended to address past technical problems for examining the different levels of dimensions that have been noted, it is important to note its limitations. The framework of the entrepreneurial ecosystem contained several dimensions and each dimension has several elements, however due to lack of reliable information, the study only contained three dimensions. The complexity of the relationship between elements in this framework has been noticed (Audretsch and Belitski, 2017; Autio et al., 2014). Future studies should look tackle different dimensions with different statistical techniques such as structural equation modelling to gain a deeper understanding of the complex interactions and relationships between the elements of the entrepreneurial ecosystem at national level.

Second, this research focuses on examining different levels but only for female samples. Only female samples were used due to the unequal numbers of male and female respondents after cleaning the data. Including males in the sample might provide a fuller picture of the proportion of females that are attracted to entrepreneurial activity compared to males.

Third, the statistical data used in the study was from the GEM database. We are dependent on the numbers reported by GEM about the country. We observed that in some years Saudi Arabia does not submit numbers to GEM and this meant that a multi-year analysis could not be performed. Future research should therefore check for a database that can provide data over multiple years (panel data) for the same country to measure the number of female entrepreneurs over years.

Finally, the data comes from secondary sources; therefore, the study is limited to its analysis to a quantitative approach. Future research should consider supplementing this with qualitative data. Qualitative data would enable a deeper understanding of factors that cannot be measured quantitatively. For example, from the individual dimension, the study finds a link between human development factors and the likelihood of women becoming entrepreneurs. Among these, the higher education factor is a dummy variable but shows no link to female entrepreneurship. A qualitative study, however, may unpack this finding by examining respondents' thoughts and feelings in respect to how their education contributed, or not, to their entrepreneurship. This would allow an understanding of, for example, the circumstances in which education is significant and those in which it is not.

Chapter 4

4 The Influence of Institutions on Female Entrepreneurial Activity in a Saudi Context.

4.1 Introduction

As has been mentioned, female entrepreneurial activity is a relatively recent area of interest in academic research, but women have already dramatically altered the playing field in entrepreneurship (Dilli and Westerhuis, 2018; Powell and Eddleston, 2013; Ram et al., 2017; Welsh et al., 2014). Since 2014, female contribution has increased each year, reaching an estimated 274 million females starting and running established businesses across the globe, and narrowing the gender gap in entrepreneurship by 5% (GEM, 2017). Nonetheless, the rate of female entrepreneurship remains lower than that of males globally, which suggests that there is currently untapped potential in respect to female entrepreneurship, and thus the opportunity to release more economic growth (Ram et al., 2017; Welsh et al., 2014).

Although female involvement in entrepreneurial activity continues to evolve rapidly in the Western world, in the Middle East there is a lower percentage of women involved in entrepreneurial activity when compared to males (GEM, 2017). Based on the World Bank report about women in the Middle East and North Africa (2010), this paper identifies three major underlying reasons for this lack of female engagement in entrepreneurial activity in the Middle East: i) the attractiveness of public sector employment, which provides a stable and sufficient monthly income, compounded with a lack of private sector jobs that are of a high quality and that generate sufficient monthly income, ii) the lack of an entrepreneurial environment, resulting from government dependence on natural resources exploited by massive firms, disincentivising the creation of private and small business, iii) failure to empower women by creating opportunities in formal employment that is adequate to their skills.

While the specific objective of this chapter is to analyze the influence of institutional factors on women to becoming entrepreneurs in a Saudi context, it is essential to identify the theoretical framework in order to identify and conceptualise these factors. As mentioned previously, using institutional economics as a theoretical framework in entrepreneurship research helps to explain the important effects of the political system on social interactions (Aparicio et al., 2016; Urbano et al., 2017). North (1990;2005) divided institutions into two types: formal institutions, essentially the government, and informal institutions that regulate cultural interaction of society. Scholars have debated which institutions hinder females in business creation: whether formal or informal (Dilli and Westerhuis, 2018; Noguera et al., 2015). For example, female entrepreneurial activity is adversely affected by inefficient bureaucracies, lack of supportive programmes and services, and the instability of laws and regulations, etc. (Mehtap et al., 2017; Naser et al., 2009). These are formal institutions which negatively impact the view of entrepreneurship for women. Based on the literature, informal institutions create an image that entrepreneurship is male dominated and this also negatively affects women's attitudes towards business creation (Zamberi, 2011). Overall, the

media bias and laws favouring males creates an unsupportive environment for women, and thus hindering their engagement in entrepreneurial activity (World Bank Report, 2005). Accordingly, this study explores women's perceptions of entrepreneurship by seeking the effect of formal factors (the intervention policies and unbanning driving) and informal factors (fear of failure, female role models and family support).

Therefore, this study extends the literature on female entrepreneurial activity and institutions in several ways. Specifically, this is the first study, to the best of our knowledge, that examines the impact of the recent reforms of Saudi institutions to analyse the relationship between institutional dimensions and female entrepreneurship. Second, it highlights the importance of the increasing opportunity in the Saudi market for females to become involved in entrepreneurial activity while analysing the influence of institutional factors that may hinder or support them. With this focus on the recent context this study offers improved, and more recent, estimates of female entrepreneurial behavioural responses to the development of the institutional dimensions. The research entails a primary survey across various cities in Saudi Arabia and including women with a range of educational backgrounds, work statuses and ages. This study is also unique since it considers how the collected sample responds to the new changes in formal institutions for women such as unban driving, or new government policies. This also extends to informal institutional factors, such as women's perceptions towards entrepreneurial activity when they know of another recent female entrepreneur; how women's fear of failure affects their perception toward business creation, and what family factors are supportive of women becoming entrepreneurs. As previously noted, the Saudi context is pivotal to this study, given that there are changes in the institutional environment aiming specifically to enhance women's entrepreneurial activity. In that regard, this study's specific focus on understanding women's involvement in entrepreneurial activity contributes to Vison 2030 (Vision, 2016). There is also a wider contribution to the literature, however, since a detailed analysis of women's participation in the economic development of the country through their entrepreneurial contribution can yield lessons for the wider Gulf region that may also be generalisable to the Middle East and North Africa (MENA) as a whole.

The remainder of the chapter proceeds as follows. The next section describes the view of the existing literature on factors influencing the probability of women becoming entrepreneurs, and development of associated hypotheses. The third section describes the data and sample, and the fourth section contains the results of the regression analysis. The fifth section presents our discussion. The sixth section provides the concluding remarks, the policy implications of the results, a discussion of the study's limitations, and directions for future research.

4.2 Theoretical Framework and Developing of the Hypotheses

As stated earlier, there has been an increase in the use of institutional economics as a framework for analysing the influence of institutional environment factors on entrepreneurial activity (Alwakid et al., 2020; Aparicio et al., 2020; Gimenez-Jimenez et al., 2020; Noguera et al., 2013; Thornton et al., 2011;

Welsh et al., 2017). In institutional economics institutions are seen as being created to shape, organise and reduce the uncertainty of human business transactions (North, 1990; 2005). Given that, in North's view, institutions are divided into two kinds: formal institutions that arise from government laws, regulations and policies, and informal institutions that arise from cultural values, beliefs, standards or customs (North, 1990; 2005). In other words, the institutions main role is to reduce uncertainty, which reduces the cost of transactions in terms of spreading the risk, increasing the mobility of capital, and lowering the cost of information (North, 1990; 2005). If they are to assist human exchange and transaction costs, formal institutions need to be flexible and proficient, which may result in changes to a society's cultural values in the perception of, or acting towards, an objective (Aparicio et al., 2016). This study employs institutional economics (North, 1990; 2005) as framed to understand entrepreneurial activity by demonstrating the perception of females regarding formal and informal institutions, therefore, demonstrating their perception of the efficiency of the country's institutional system.

Many previous papers have sought to shed light on the relationship between entrepreneurial activity and the institutional environment (Alwakid et al., 2020; Gimenez-Jimenez et al., 2020; Bruton et al., 2010; Terjesen and Amorós, 2010), and the role of formal and informal institutions in creating an efficient institutional framework for women to become entrepreneurs (Terjesen and Amorós, 2010). This may explain the increasing number of women driven toward business creation over the years, with approximately 42% of world businesses owned by women (GEM, 2010). In that research, the formal institutional factors that have been examined in relation to entrepreneurial activity include regulations and policies, while the informal institutional factors include fear of failure, role models and family support (Aldrich and Cliff, 2003; Caliendo et al., 2009; Knörr et al., 2013; Noguera et al., 2013; Shinnar et al., 2012; F. H. Stephen et al., 2005; Urbano et al., 2017; Wagner, 2007). Each of these are set out in the context of this study in the paragraphs below.

In respect to formal institutions, regulations and policies are the main tools hindering or supporting entrepreneurial activity. According to Urbano et al. (2019), the role of formal institutions is to generate an attractive ecosystem for entrepreneurial activity, but they need to be explicit to understand its effects on entrepreneurship fully. For instance, Gnyawali and Fogel (1994) suggested that the formal institutional dimension is connected to entrepreneurship; therefore, the government should limit such policies and rules that hinder individuals in the pursuit of business start-up and creation. Several other studies have presented the value of formal institutions to measure the rate of entrepreneurial activity (Dilli and Westerhuis, 2018; Welsh et al., 2014). Welsh et al. (2014), for example, found that Saudi female entrepreneurs faced several obstacles that are not limited to informal institutions. According to these authors, the ambiguous regulations played a pivotal role in hindering females' involvement in entrepreneurial activity. Moreover, the empirical evidence has shown that changing policies in terms of government regulations results in individuals being

able to access funds more quickly, which creates an entrepreneurial friendly atmosphere at the national level (Bruton et al., 2010). Thus, formal institutions can deliver policies and procedures that are supportive of entrepreneurial activities (Aparicio et al., 2016). Ram et al. (2017) found that in Scandinavian countries, the highly formal nature of institutional laws and regulations had a positive impact on entrepreneurial performance.

The fundamental element of formal institutions is policies and regulations, which are created to control the social behaviour of the business environment. These rules and policies may affect business creation positively (Van Stel et al., 2007) or negatively, as perceived by potential entrepreneurs (Gnyawali and Fogel, 1994). For example, rules or policies such as ease steps of register the business for a start-up venture, motivates individuals to engage in entrepreneurial activity, while complex tax and labour force regulations have a negative effect (Van Stel et al., 2007). Formal institutions can therefore have a role in increasing the entrepreneurial activity rate by changing policies, regulations or procedures.

The stability of formal institutions reflects positively on social groups' performance. This suggests that the promotion of policies is a critical support to entrepreneurial activity (Urbano et al., 2019), while in contrast decreased attention to important and inflexible policies presents a negative relationship to entrepreneurial activity (Stephen et al., 2009; Van Stel et al., 2007). Accordingly, policies and rules that stimulate entrepreneurial activity are fundamental. However, since early 2016, therefore, the government of Saudi Arabia has set about re-establishing and reforming previous policies and rules to increase the entrepreneurial activity rate (Vision, 2016). Throughout the Gulf region, and specifically in Saudi Arabia, governments have tended to intervene in the market for perceived economic and political benefits (Sadi and Al-Ghazali, 2010). The main goal is to control the market by increasing its dynamics and creating efficient transaction processes. While many policies have been changed, these changes such as obtaining licence online with ease of steps are assumed to particularly motivate females towards entrepreneurial activity (Vision, 2016). We argue, however, that these policies do not appear to do well in supporting women who wish to become entrepreneurs due to their instability (Vision, 2016). Reflecting on the previously discussed research, this study proposes the following hypothesis:

> ***Hypothesis 1.*** *Intervention policies have a negative effect on the probability of females engaging in entrepreneurial activity.*

Shedding light on the reconstruction of policies and rules, in June 2018, the revocation of the law that previously banned Saudi females from driving was the biggest turning point of the era for the country (Vision, 2016). The law which banned women from driving represented a barrier to female involvement in entrepreneurial activity over the years (Zamberi, 2011). Saudi Arabia was the only country that banned women from driving. Saudi women had to depend on male relatives to travel around, even for small distances. In more challenging cases, such as in urban areas, Saudi females find it extremely difficult to

access public transportation and to find a male relative to drive them around. The government's changes to these laws are attempting to support women to increase their contribution to the country's economic well-being (Vision, 2016). This move is therefore one step in a series of sweeping reforms to the policies and rules for social and economic well-being, referred to as Vision 2030. The assumption, therefore, is that this change in institutions will lead to an increase in Saudi women engaging in entrepreneurial activity.

Faisal et al. (2017) stated the importance and crucial role of academic investigations into the impact of formal institutions on female entrepreneurial activity. One example they cited was the tendency for women to focus on careers in the public sector, rather than owning their own businesses, because they found it hard to deal with the regulations and policies in place for starting up a business (Faisal et al., 2017). Compounding the above issue are several others, such as the cost of transportation, the inconvenience of moving around, or even being prohibited to have someone who is not a blood relative drive them around. We argue that allowing females to drive is beneficial in two ways: it will help to increase their participation in the labour market, given that access to public transportation is currently limited, and it will help to save females money for the wages of a private driver or for public transportation expenses. Since these reasons are expected to reflect positively on females, we expect this to also reflect in their behaviours towards entrepreneurial activity. Consequently, we proposed this hypothesis:

Hypothesis 2. *Unbanning driving has a positive effect on the probability of females engaging in entrepreneurial activity.*

Informal institutions also have an impact on entrepreneurial activity in society (Aparicio et al., 2016). Prior studies have shown that informal institutions such as fear of failure, role models and family support have been associated with an increased rate of entrepreneurial activity (Aldrich and Cliff, 2003; Caliendo et al., 2009; Noguera et al., 2013; Shinnar et al., 2012; Stephen et al., 2005; Urbano et al., 2017; Wagner, 2007). These are examined below.

Fear of failure characterises a potent factor constraining individuals' entrepreneurial activity (Caliendo et al., 2009). Research indicates that women are more likely than men to be risk-averse (Shinnar et al., 2012), and the fear of failure affects women's behaviours negatively for entrepreneurial entry (Noguera et al., 2013; Wagner, 2007). Scholars claim to understand the risk behaviour of individuals, particularly women who wish to become entrepreneurs (Caliendo, Fossen and Kritikos, 2009; Noguera, Alvarez and Urbano, 2013; Shinnar et., 2012; Wagner, 2007). Studies suggest that there is risk-aversion in respect to business creation; therefore, the question is what levels of fear of failure prevent individuals from starting their own business (Knörr et al., 2013; Minniti and Nardone, 2007). Wennberg, Pathak and Autio (2013) found that in societies with high degrees of uncertainty individuals' fear of failure inhibits entrepreneurial activity. A study in the Middle East and North Africa, however, revealed low levels of fear of failure amongst women who pursue entrepreneurial activity (Hattab, 2012). Welter and Smallbone

(2006) explained the effect of low degrees of fear of failure among women, specifically in a collective culture. The authors found that institutional collectivism plays an important role in providing individuals with a positive social fabric to provide support.

Prior research has reported that there are different attitudes to failure. Some are risk-averse (Knörr et al., 2013; Shinnar et al., 2012), others ridicule experiencing failure (Wood et al., 2013), and others focus on the ability to achieve goals (Noguera et al., 2013). These different descriptions of behaviours show the consequences of a person's emotional responses to menace. Generally, however, the fear of failure has been found to be higher among women than men (Noguera et al., 2013; Wagner, 2007), and this has been linked to the gender gap in entrepreneurial activity (Wagner, 2007). If women are naturally more risk averse, we would expect fear of failure to be a key factor affecting Saudi women's willingness to get involved in entrepreneurial activity. Accordingly, we propose the following hypothesis:

Hypothesis 3. *Fear of failure has a negative effect on the probability of females engaging in entrepreneurial activity.*

North (2005) conveyed that informal institutions are "equally known but not laid down in writing and they tend to be more persistent than formal rules." An example of that is role models. Contín-Pilart and Larraza-Kintana (2015) defined role models as an ideal example for another individual, who is inspired by the role model's path or journey. Several findings have evidenced the influence of role models on entrepreneurial activity (Contín-Pilart and Larraza-Kintana, 2015; Dilli and Westerhuis, 2018; Martin-Sanchez et al., 2018; Powell and Eddleston, 2013; Stephen et al., 2005; Welsh et al., 2016).

The review has shown that there are different forms of role models. Welsh et al. (2017) proposed that role models among family members are a pivotal influence for females engaging in entrepreneurial activity. For example, the authors such as Urbano (2006) found that amongst family members who established their own firm, other family members were influenced to become entrepreneurs. Also, the empirical study in the Spain region, taking data between 2008 and 2014, found that the knowing entrepreneur played a positive and inspirational role not only on an individual's decision to become an entrepreneur, but for the characteristics of new entrepreneurial initiatives (Martin-Sanchez et al., 2018). According to Dilli and Westerhuis (2018), however, based on a report of the European Commission (2013) one of the main barriers for female entrepreneurship is a lack of role models.

Authors such as Rocha and Van Praag (2020) have suggested studying the influence of female entrepreneurs on other females' decisions to become entrepreneurs and the GEM report (2010) showed that knowing an entrepreneur increased an individual's propensity towards entrepreneurial activity. Although there is an increasing number of studies covering the impact of role models on an individual's decision to become an entrepreneur in different forms: family transition (Urbano, 2006), student (Karimi et al., 2014), or immigrants (Contín-Pilart and Larraza-Kintana, 2015), there is little literature on the impact of female

entrepreneurs on the decision of other women to become entrepreneurs (Rocha and Van Praag, 2020), or the creation of role models in collective culture. Given that the culture of Saudi Arabia limits the interaction and networking of females to males within their own family, or other females it represents a unique context where females are subjected to interact further with other females in daily life. The uniqueness of this culture exposes the importance of investigating behaviour within this gender imbalanced society and thus also the influence of females on the behaviour of other females in terms of entrepreneurship. Thus, we formulate the following hypothesis:

Hypothesis 4. *Knowing another female entrepreneur has a positive effect on the probability of females engaging in entrepreneurial activity.*

In terms of family support, there is an increasing focus on the influence of family on entrepreneurs, particularly on women's decision to become entrepreneurs (Faisal et al., 2017; Powell and Eddleston, 2013; Welsh et al., 2014;2017;2016). It is well recognised that family support is a vital form of social capital embedded in an individual to get involved in business activity (Welsh et al., 2014). According to these authors, family support is divided into two parts: family norms, which contain the culture and rules of the family; and family social capital, which includes advisory support and emotional support. It is stated that social capital plays a pivotal role in family support for females becoming entrepreneurs, particularly for an extremely collective culture.

Female entrepreneurs may have an advantage from social capital that originates from family support. However, Ram et al. (2017) highlighted the competitive advantage deriving from social capital: entrepreneurs find it easier to access loans and labour. Dilli and Westerhuis (2018) have raised the perspective of women's responsibilities in the home and family, especially through child-rearing, and have showed that these might benefit entrepreneurial activity but remove leverage from females who wish to become entrepreneurs. Indeed, in Saudi Arabia, home care and child-rearing are some of the main roles and obligations for women in the society (Welsh et al., 2014). Given that the financial support and welfare from family to Saudi women is pivotal, unlike among Southern Europeans, the lack of these support systems negatively affected women's involvement in business activities (Dilli and Westerhuis, 2018). With this institution, sociologists have indicated that family constraints play an important role in helping or hindering females from being involved in entrepreneurial activity (De Vita et al., 2014). They have also determined that family support is one of the most significant factors for female entrepreneurs' success in Malaysia (Alam et al., 2011). Hence, this study would expect to see a similar effect in the Saudi context, given the similarity in the contexts: i) the dominance of the Islamic religious beliefs, ii) the collectivistic culture and social ties. Moreover, we would expect that the nature of this support be stronger upon the Saudi Arabian family since the Saudi nation considers itself as collective and conservative concerning women. We thus hypothesise:

Hypothesis 5. *Family support has a positive effect on the probability of females engaging in entrepreneurial activity.*

4.3 Methodology

4.3.1 Sample, Data Collection, and Respondents

This paper uses primary data collected from both female business owners and women who are interested in business creation in Saudi Arabia, thus allowing an assessment both of the behaviours and perceptions of female entrepreneurs, and the behaviours and perceptions of whose are not considered entrepreneurs. A stratified sample method ensured that all regions of Saudi Arabia were represented (Carter et al., 1997; Neyman, 1934). The technique is commonly used to select specific group known as strata to to improve precision (reduce error) relative to simple random sampling (Neyman, 1934). The sample consists of female entrepreneurs from different regions, educational backgrounds and work sectors, as we designed the sample to be representative of Saudi society. The questionnaires comprised exploratory questions and statements on a five-point Likert scale. The data was collected during 2019. In all, 208 surveys were completed and used for this study. For the sample size, the paper followed a rule suggested by Austin and Steyerberg (2015), that sample size should be at least ten observations per variable. The Double Translation Protocol was adopted (Welsh et al., 2014): the English version of the questionnaires was established first, translated into Arabic, and then translated back into English. The step of translating into Arabic went through four researchers in the entrepreneurship field with bilingual proficiency in Arabic and English to ensure an accurate translation.

The survey was collected in two different steps. The online survey was distributed by e-mail and this was followed up with a phone call to the respondents and organisations in 16 different locations in Saudi Arabia. The e-mail was distributed with the assistance of a number of organisations that are well-known for supporting entrepreneurial activity in Saudi Arabia (Badir -WED-University of Business and Technology- King Abdulaziz University-Small and Medium Enterprise General Authority (Monshaat). The follow-up phone calls were very important to ask everyone to complete the survey, as the response rate to the e-mail was very low. The second step in conducting the survey targeted entrepreneurial events (Basta Market, and Entrepreneurs' Forum), where respondents were asked to complete the survey online. These two events were targeted because they are sponsored by the Chamber of Commerce and have a high attendance rate from visitors who are interested in getting involved in entrepreneurship.

4.3.2 Variables

We measured females who are becoming entrepreneurs on a dummy question where a dummy variable is 1 if a female is an adult in the process of starting her own business or presently owning a young business up to 3.5 years old; and zero otherwise. The GEM classification of an "entrepreneur" was used for the sake of consistency with the study in chapter three and because the study aimed to find female entrepreneurs in

their early stages of entrepreneurial activity since entrepreneurship is evolving concept in Saudi Arabia, in particular amongst female. Furthermore, the used of TEA as well indicator of GEM project that has surveyed entrepreneurial activity for more than 15 years and covers more than 60 different countries. Also, it assists the study to locate entrepreneurs with early stage of entrepreneurial activity.

In regard to the independent variables, there are three hypotheses our research has examined by means of Likert scales (1 meaning strongly disagree to 5 meaning strongly agree), these are: Intervention policies, unban driving and family support, and two hypotheses captured through dummy variables (fear of failure and female role model). Table 4.1 shows the description of the variables. The study followed previous findings to focus on the impact of formal institutional factors, such as intervention policies and unbanning female drivers, on women's propensity to become an entrepreneur (Dilli and Westerhuis, 2018; Nishat Faisal et al., 2016; Burton et al., 2010; Ram et al., 2017). Likewise, it followed the previous findings in respect to the informal institutional factors, specifically fear of failure (Caliendo et al., 2009; Noguera et al., 2013; Shinnar et al., 2012; Wagner, 2007), female role model (Contín-Pilart and Larraza-Kintana, 2015; Noguera et al., 2015; Rocha and Van Praag, 2020; Urbano et al., 2017), and family support (Alam et al., 2011; Ram et al., 2017; Welsh et al., 2014), and modified these to fit the context of the country. Table 4.1 provides the description of the variables used in the study.

Moreover, the study controlled for demographic variables. The previous findings identified a significant relationship between age, education and work status and individuals' decisions to become entrepreneurs (Dilli and Westerhuis, 2018; Martin-Sanchez et al., 2018; Welsh et al., 2014). First, age is a continuous variable showing a significant relationship to entrepreneurial activity (Dilli and Westerhuis, 2018). It was found that subjects with younger ages, between 25 and 34 years, were more likely to engage in the early stage of entrepreneurial activity (Delmar and Davidsson, 2000). Since a high percentage of Saudis are young (Saudi Labour Force Report, 2016), the research intends to investigate the influence of age on Saudi female self-employment. Second, the literature shows that the choice of female self-employment is more limited in country's with a larger state sector (Estrin and Mickiewicz, 2011), and it further suggests that women are more likely to lean toward self-employment because of their dependency and the need for time flexibility, particularly in the cases of wives and mothers (Dilli and Westerhuis, 2018; Klyver et al., 2013). As has been mentioned, in Saudi Arabia, as in most countries that have highly collective culture, home caring and child-rearing are essential and the responsibility generally falls on women (Danish and Smith, 2012). The investigation of employment therefore assesses the research to understand the gender gap in entrepreneurial activity (Dilli and Westerhuis, 2018). Following the work of Aidis et al. (2008), the proxy of work status is here reflected as a binary variable of one for a female who is either in a full or part-time job excluding self-employment, and zero otherwise. Next, education is an important measure of human capital (Aidis et al., 2008), that potentially determines the decision about involvement in the early stage of

entrepreneurship (Davidsson and Honig, 2003), and an average entrepreneur is generally educated (Parker, 2004). Given that there is an increasing number of educated females in Saudi Arabia (Danish and Smith, 2012), and to seek the reflection of this increase of education on female self-employment, a binary variable was established, and set at one for females who obtain secondary education and higher, and zero otherwise.

Table 4. 1 Description of Variables

Variable	Variables description	Possible values
Dependent variable		
Female entrepreneur	A dummy variable is 1 if female entrepreneurs' adult in the process to start her own business or presently owning a young business up to 3.5 years old; it is 0 for otherwise	1. Female entrepreneur 0. Otherwise
Independent variables		
Formal institutions		
Intervention policies	The respondents are asked to rate: If the sudden changes of government policies will hinder you to start your own business	3 items Likert scales from 1 strongly disagree to 5 strongly agree
Unban driving	The respondents are asked to rate: Is that correct, allowing women to drive boost you to start and own your business.	2 items Likert scales from 1 strongly disagree to 5 strongly agree
Informal institutions		
Fear of failure	A dummy variable of 1 is if a fear of failure preventing you from starting your business.	1.Yes 2. No
Female role model	A dummy variable of 1 is if the story of other women who started/owned business successfully encourages you to start your own business.	1. Yes 2. No
Family support	The respondents are asked to rate: I have received enough support from female relative(S) to start my own business	3 items Likert scales from 1 strongly disagree to 5 strongly agree
Control variables		
Age	Current age of participants in years	18 to 64 years old
Work status	The respondents are asked to identify their current employment	1 = either in full or part time job only; zero otherwise
Higher education	The respondents are asked to identify the highest educational obtained.	1= has attained secondary education and higher; zero otherwise

4.3.3 Analysis

Regarding the independent variables, the research examined three hypotheses through Likert scale questions (1 meaning strongly disagree to 5 meaning strongly agree), which are (intervention policies, unban driving and family support). The study started to seek the underlying relationship between latent variables (Hair et al., 2006). The step involves exploratory factor analysis (EFA), which is "a statistical mechanism to understand the relationship between latent variables and loading in single factor" (Hair et al., 2010). The analysis reports that perceptions of intervention policies are composed and related to three items, unbanning driving to two items and family support to three items. Table 4.2 shows the rotated factor

loading (pattern matrix) of items in conducting the main question, coefficients, Cronbach's Alpha, and KMO test report all a times in between acceptable level to predict the main factor.

Table 4. 2 Rotated Factor Loading (Pattern Matrix)

Variable	1	2	3	Uniqueness
Intervention policies				
Item1	.64			.59
Item2	.68			.53
Item3	.50			.75
Unban driving				
Item1		.95		.96
Item2		.95		.96
Family support				
Item1			.87	.24
Item2			.85	.28
Item3			.77	.41
KMO	.63	.51	.67	>.5
Bartlett test	98.51	199.23	159.36	***
Cronbach's α	.70	.89	.77	>.7

To contrast the hypotheses and to verify the influence of formal institutional factors (Intervention policies and unbanning driving), and informal institutional factors (fear of failure, role models and family support) on women's attitude to becoming entrepreneurs, we employ the binary logistic regression technique. The purpose of employing binary regression as a technique for analysing our data is that our dependent variable is binary by nature.

Table 4.3 shows means, standard deviations and pairwise correlations of the independent and control variables. It should be noted that some of the independent variables' correlation coefficients are high, with (-.24) being the highest. We therefore checked for multicollinearity among the explanatory variables using the variance inflation factor (VIF), with the result showing that multicollinearity is not a problem to be considered in our data, and we have an acceptable level to proceed (Neter et al., 1996).

4.4 Results

Table 4.3 provides descriptive statistics and pairwise correlations. Pearson's correlation was run to assess the relationship between female entrepreneurship and each of the independent variables (intervention policies, unbanning driving, fear of failure, role model, and female family support) and control variables (age, work status, and higher education). Table 4.3 shows that the average of female entrepreneurs in their early stage of entrepreneurial activity is 54%, with a standard deviation of .49, and an average age of approximately 32 years old. The result presents a negative correlation between female entrepreneurship and intervention policies, r (109) = -.12, $p \leq .10$, although allowing women to drive is a positive sign, there is no significant correlation to female entrepreneurship, r (109) = .04, $p > .10$. The important findings are

apparent in Table 4.3. The informal institutions' norms show a stronger correlation to female entrepreneurship than formal ones. This shows that the fear of failure has a negative relationship to female entrepreneurship, r (109) = -.24, $p \leq .01$, thus supporting previous research that has demonstrated the importance of investigating the correlation of the level of risk-aversion for females when considering business start-ups at a nationwide level (Caliendo et al., 2009; Noguera et al., 2013; Shinnar et al., 2012; Wagner, 2007). Also, the correlation between female entrepreneurship and other female role models shows a positive relationship, r (109) = .12, $p \leq .05$, supporting the previous findings (Contín-Pilart and Larraza-Kintana, 2015; Rocha and Van Praag, 2020; Urbano et al., 2017) by capturing the contextual behaviour among females. Family support also presents a strong positive correlation to female entrepreneurship, r (109) = .23, $p \leq .01$ (Alam et al., 2011). Regarding demographic variables, only work status has a significant relationship to female entrepreneurs, indicating that women being in full and part-time employment is positively related to business creation.

Although age has no significant correlation to female entrepreneurship, the positive correlation was interesting; thus, we conclude that there is no significant coefficient between this variable and female entrepreneurship in Saudi Arabia, in contrast to previous studies (Dilli and Westerhuis, 2018). Additionally, there is a correlation between female entrepreneurship and higher education, but it is not statistically significant ($p > .01$). While previous research has identified education as a vital human capital in respect to entrepreneurship (Aidis et al., 2008; Dilli and Westerhuis, 2018), our work agrees with that of Van der Sluis et al. (2008) in indicating only a weak relationship, suggesting that it may correlate differently at different stages of entrepreneurial activity.

Table 4. 3 Means, Standard Deviations, and Correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	VIF
Female Entrepreneur	.54	.49	1									
Intervention policies	.03	1.01	-.12*	1								1.05
Unban driving	.04	.09	.04	.14*	1							1.09
Fear of failure	.61	.48	-.24***	.08	.10	1						1.05
Female role model	.52	.50	.12**	.15**	.21***	.04	1					1.14
Family support	.01	.98	.23***	.02	.12*	-.11*	-.04	1				1.06
Age	32.09	8.90	.09	-.09	-.02	-.01	-.19***	.13*	1			1.07
Work status	.59	.49	.12*	-.02	-.02	-.12*	.02	-.04	.03	1		1.06
Higher education	.85	.36	-.01	-.08	.01	-.04	-.18**	-.03	.12*	.19**	1	1.09

***significant at $p \leq 0.01$; **significant at $p \leq 0.05$; *significant at $p \leq 0.10$.

Table 4.4 includes the results of four binary logistic regression models. In the first model, we regress our dependent variables with the control variables (age, work status, and higher education). In the second model, we repeat this procedure, and we added the formal institutional factors with the control variables. Then, in model three, we follow the same procedure, and we added our informal factors. Lastly,

in our fourth model, we seek the effect of each variable and respond to our proposed hypotheses. Doing these steps build a strength measure to the main model.

In summary, the four models present strong significance to indicate the results, Wald chi2 in between 4.97 to 33.06. The pseudo- R^2 values determine the proportion of variance in the dependent variable, which varies from 0.0190 to 0.1262, indicating a fairly good model.

In model 1, the study examined the relationship between female entrepreneurship and demographic factors. Following prior studies demonstrating a positive and significant relationship to entrepreneurship, we controlled for demographic factors (age, work status and higher education) as the (Dilli and Westerhuis, 2018; Klyver et al., 2013; Martin-Sanchez et al., 2018). On that basis, linear regression established that work status significantly predicts female entrepreneurship ($p \leq 0.01$). This result supports the previous suggestions in respect to the effect of employment on female entrepreneurship; showing that employed females are more likely to start a business in comparison to those not employed (Dilli and Westerhuis, 2018; Klyver et al., 2013). Based on the result of model 1, however, age and higher education were not statistically significant to predict female entrepreneurship at ($p > 0.10$). Although age was not significant, the result appears to indicate that age has a positive relationship on a female's decision to become an entrepreneur, indicating that, at an older age, a female has a higher probability of involvement in the early stage of entrepreneurial activity. Regarding human capital, higher education shows a negative relationship and is not significant in predicting female entrepreneurship at this stage in entrepreneurial development in Saudi Arabia. While previous studies have suggested that a relationship exists here, but it may be that it correlates at a different stage of entrepreneurial activity (Van der Sluis et al., 2008).

In model 2, the study included the variables relating to formal institutions (intervention policies and unbanning driving) along with the control variables. The positive sign of the results is noticed, which indicates that there is a positive relationship between formal institutional factors in terms of unbanning driving and women's decision to become an entrepreneur. This positive relationship is not significant, however. While intervention policies reveal a significant negative correlation in the model. In this sense, this negative sign may be a result of the policies to support Saudi females not yet having been fully implemented in the community. According to O'Connor (2013), the lack of the government promotion of policies supporting entrepreneurship, and the failure to report the positive effect of policy issues might lead to a lack of awareness of change within society in general, therefore affecting entrepreneurship negatively.

Similarly, in order to explain the influence of informal institutional factors, the study added fear of failure, female role models and family support to the control variables in model 3. The model overall is statistically significant at p-value = .01 with pseudo- R^2 0.1262. It can be seen that all the surveyed informal institutional factors report a significant relationship to women becoming entrepreneurs, in line with previous findings as to the importance of these factors for predicting female entrepreneurial activity (Alam

et al., 2011; Aldrich and Cliff, 2003; Bardasi et al., 2011; Caliendo et al., 2009; Noguera et al., 2013; Shinnar et al., 2012; Urbano et al., 2017; Wagner, 2007).

Model 4 included all the formal and informal institutional variables with the control variables in order to test the effect of proposed hypotheses. Hypothesis 1, which proposed that intervention policies have a negative effect on the probability of females engaging in entrepreneurial activity, was supported (β=-.30, p <.10). Hypothesis 2, which proposed that unbanning driving has a positive effect on the probability of females engaging in entrepreneurial activity, was not supported (β=.06, p >.10). The result showed that allowing driving had a positive effect but not a significant one. This may reflect the conservative nature of family life in Saudi Arabia, in that families, specifically parents, or husbands in the case of married women, have stronger authority over how women conduct themselves than what is allowed or not allowed within formal laws (Al-Khateeb, 1998). In other words, in this case, negative informal institutional effects may outweigh positive formal institutional ones. Hypothesis 3, which predicted that fear of failure has a negative effect on the probability of females engaging in entrepreneurial activity, was strongly supported, thus identifying fear of failure as the biggest obstacle to women pursuing business start-up (β=-1.01, p < .01). Hypothesis 4, which proposed that knowing another female entrepreneur has a positive effect on the probability of females engaging in entrepreneurial activity, was also supported (β= .79, p <.05). Finally, Hypothesis 5, which proposed that family support has a positive effect on the probability of females engaging in entrepreneurial activity, was strongly supported (β=.52, p < .01).

Table 4. 4 Logit Regression Results

Variables	Model 1		Model 2		Model 3		Model 4	
	Coefficient	**SE**	**Coefficient**	**SE**	**Coefficient**	**SE**	**Coefficient**	**SE**
Formal Institution								
Intervention policies			-.26*				-.30*	.16
Unban driving			.13				.06	.17
Informal Institutions								
Fear of failure					-1.01***	.33	-1.01***	.33
Female role model					.72**	.33	.79**	.34
Family support					.51***	.17	.52***	.17
Control variable								
Age	.02	.02	.02	.02	.02	.02	.02	.02
Work status	.05*	.31	.05*	.31	.48*	.32	.49*	.33
Higher education	-.25	.42	-.31	.42	-.13	.46	-.17	.47
Model χ2	4.97**		8.38**		29.40***		33.06***	
Pseudo *R2*	.0190		.0320		.1122		.1262	
Observations	190		190		190		190	
Log-likelihood	-128.54		-126.83		-116.32		-114.49	
Percent correctly predicted	58.95%		58.42%		66.84%		72.11%	

***significant at p ≤ 0.01; **significant at p ≤ 0.05; *significant at p ≤ 0.10.

The overall model report was measured to predict the result with a *p*-value of .01, and the model R-squared at .1262. The model concludes that formal institutions, in terms of intervention policies, and informal institutional factors, in terms of fear of failure, female role models and family support, have a stable influence on women's decisions to become entrepreneurs. The coefficient of informal institutional factors, however, shows a closer relationship to the probability of women becoming entrepreneurs than that for formal institutions factors. On the other hand, there is not enough evidence to support the notion that unbanning driving has a significant influence on female entrepreneurship Moreover, it was observed that while we include all variables, work status (i.e. already having a full or part-time job) has increased it coefficients to report the highest among all models.

4.5 Discussion

The findings above reveal the effect of formal and informal institutions on women's decisions to become entrepreneurs in Saudi Arabia. The study extends previous works in this area (Noguera et al., 2013; Thornton et al., 2011; Urbano et al., 2017) by seeking the effect of recent changes in both institutions on female entrepreneurship within a country that is known to be highly conservative in regards to women networking. In doing so, this research is using recently collected data from Saudi Arabia to better capture the changes in both formal and informal institutions. Also, this research estimates the reforms among institutions while considering the factors that influence females to become entrepreneurs, building upon the previous research and modifying it to fit the context of the country (Welter, 2011; Zahra, 2007). This extension is especially vital given the country's shift towards policies intended to increase women's involvement in entrepreneurial activity. Additionally, the findings provide evidence from an environment that might establish a base for future studies in other emerging economies in the Middle East and North Africa with similar cultural traits.

Four out of five of the initial hypotheses about institutional factors that might support female entrepreneurship were supported by the results of then modelling, demonstrating statistically significant relationships. This includes formal institutions, such as intervention policies, and informal institutions such as fear of failure, female role models and family support. The results are in line with previous findings on the importance of understanding the risk-averse nature of individuals in society, particularly amongst females (Noguera et al., 2013; Wagner, 2007), and the role of family support in increasing propensity to entrepreneurial activity (Alam et al., 2011; Bardasi et al., 2011; Powell and Eddleston, 2013). Unbanning driving did not have a statistically significant relationship to increased entrepreneurship, however. That said, it should be noted that allowing women to drive is a step that has been taken only since the beginning of 2018 (Vision, 2016). It is currently, therefore, probably too early to assess the implications of unbanning driving, since very few women are driving in practice, due to cultural norms, and the eventual long-term effects are not yet fully evident. Finally, work status shows a positive and significant effect, indicating that

women are more likely to become entrepreneurs when they are already involved in the workforce. Overall, although our evidence is suggestive nor conclusive, it is sufficient to demonstrate that both formal and informal institutions are pivotal to entrepreneurial activity (Dilli and Westerhuis, 2018; Urbano and Alvarez, 2014).

4.6 Conclusion

In summary, the paucity of empirical research on women in developing and emerging economies has been noticed from the literature review. The chapter's present work therefore adds to the body of literature by providing empirical evidence in respect to those factors from both formal and informal institutions that determine female entrepreneurship in the context of a country shifting from a rentier economy to one more reliant on entrepreneurship amongst citizens, in which females are expected to play a full role. Consequently, the study tentatively concludes that informal institutions have a greater impact on female entrepreneurship. In particular, the negative influence of fear of failure in society, seeing and knowing other female entrepreneurs, and family and relatives' support are all factors that are strongly associated with the likelihood of female entrepreneurship in the Saudi context.

The use of formal and informal institutions to predict female entrepreneurial activity is a relatively recent development in the scholarship. This study adds to that scholarship by providing the first empirically based assessment of the impact of changes in formal and informal institutions on female entrepreneurship in Saudi Arabia.

4.6.1 Policy Implications

The results of this chapter suggest that changes in the formal institutions in terms of allowing women to drive have not yet affected female entrepreneurship in practice. The new policies in Saudi Arabia are meant to reduce the obstacles women face in starting their firms and to be supportive of them, but females did not perceive them as helpful and they had a chilling effect on female involvement in entrepreneurial activity. Since it can be argued that the regulatory environment is one of the biggest obstacles for female entrepreneurial activity in Gulf Cooperation Council (GCC) countries (Elam and Terjesen, 2010; Faisal et al., 2017), and since our results suggest that this continues to be the case even when efforts are being made to liberalise, policymakers should focus on raising awareness of changes in the formal environment, especially for women. A better communications approach may help to overcome pessimistic perceptions of the entrepreneurial environment.

The findings showed that fear of failure has a negative effect on the likelihood of female entrepreneurship. Saudi females perceived self-employment as highly risky. Earlier studies have elaborated on the negative impact of fear of failure on the behaviour of women and labour market satisfaction (Caliendo et al., 2009; Noguera et ., 2013; Shinnar et al., 2012; Wagner, 2007). The risk of failure and the perception of entrepreneurship as high risk are strong obstacles for women when considering

entrepreneurial activity. Although this has been explored extensively in the research, few studies have been conducted on women in GCC countries, especially Saudi Arabia. Generally, however, research indicates a lack of motivation to seek and utilise all capabilities, as fear of losing their capital investment and fear of being perceived as a failure within society. These negative perceptions suggest that policymakers need to communicate a message of entrepreneurship as a distinguished career vis-a-vis other professional jobs. In other words, publicity campaigns on policy changes. Also, it suggests that policymakers should provide one more direct policy intervention is preferential tax treatment for entrepreneurs, so recognising that small businesses are risky and that people who undertake self-employment face more risks to their income than people in regular jobs, but rewarding that willingness to take on risk through a preferential tax regime.

In addition, the findings reported the significant impact of role models, especially that knowledge of female entrepreneurs creates a positive perception of entrepreneurship among other women. This is quite interesting in showing how the evolving concept of entrepreneurial activity has a positive effect on society's view of entrepreneurs. While Saudi Arabia has in the past decades relied on natural resources and a few large firms, and the job market is male-dominated (Vision, 2016), this has been changing and there is now increasing attention paid to entrepreneurs in society. Prior studies have examined various effects of entrepreneurial role models (Contín-Pilart and Larraza-Kintana, 2015; Urbano et al., 2017), showing how knowing about other female entrepreneurs can have a positive effect on women's desire to create businesses and how this can offset the cultural obstacles created by a conservative and male-dominated society. The study suggests, therefore, that policymakers should support the status of entrepreneurs so as further to enhance this positive view amongst females, focusing particularly on promoting entrepreneurship for women through the education system and collaborating with existing entrepreneurs to provide information to new generations.

The third vein of informal institutions is family support. Previous research has demonstrated the positive and significant impact of family support, especially for female entrepreneurs (Alam et al., 2011; Powell and Eddleston, 2013). This study elaborates on these previous results by showing how in a collectivist culture, such as in the Gulf region, family members and relatives greatly influence women and how this impacts the probability of female entrepreneurship. This result is quite interesting, on the one hand scholars have argued there conservative attitudes encouraging women to be homemakers has a negative influence on female entrepreneurship in Gulf countries (Elam and Terjesen, 2010; Faisal et al., 2017), others have highlighted how family involvement in entrepreneurial activity can have a supportive and positive effect on women engaging in business creation (Powell and Eddleston, 2013). Family support gives women a sense of self-satisfaction and improves business performance. This suggests that policymakers should highlight the role of family support in the business environment, and the pivotal role of women in society, as well as in the economic development of the country.

4.6.2 Limitations and Future Research

Although, the study has tried to overcome the previous scholars' limitations, several limitations should be acknowledged. First, because most of the changes in formal institutions such as unbanning driving came into effect recently, at the beginning of 2018, it is difficult yet to arrive at firm conclusions. Given that, the survey conducted in 2019. Future research should investigate formal institutional effects with different indicators and focus on the implications of this change.

Second, the analysis relies on a sample that contains women in the early stage of entrepreneurial activity. Future research should therefore extend that by comparing this with males in the same stage of entrepreneurial activity. Expanding on this should further the knowledge regarding the different reasons behind the gender gap from the same or different stages of entrepreneurial activity. This may in turn show the differences that might relate to the two genders.

Third, while the study investigates the effect of the formal and informal dimensions, it noticed the lack of literature on female entrepreneurs from emerging economies and specifically the Middle East region. This lack of research into female entrepreneurs in the Middle East region and especially Saudi Arabia has been a limitation for this study since it means that there is inadequate literature and statistics to provide a more detailed view of female entrepreneurial activity over the last decades. The study therefore provides a view of female entrepreneurs based on the limited literature that is available from the region.

Lastly, the primary data collected allows this study to consider circumstances only in the immediate aftermath of the change in policies, and the study was therefore unable to do a comparison with the previous situation due to the lack of evidence. Hence, while the results showed that informal institutions have a strong relationship to female entrepreneurial activity, future research should extend our findings to use a qualitative technique for providing a rich, and detailed about how these informal institutions factors enhance the attitude of females toward entrepreneurship.

Chapter 5

5 The Influence of Institutions on Entrepreneurial Activity between Men and Women in Saudi Arabia.

5.1 Introduction

Although it has been noted that most developing countries support entrepreneurial activities, there remains a gender gap in terms of entrepreneurial activity (Bullough et al., 2017; Rodríguez Gutiérrez et al.,, 2014; Tlaiss, 2015). Indeed, several empirical studies have shown that men's involvement in entrepreneurial activity is double that of women (Acs et al., 2004; Bosma and Levie, 2010). Bardasi, Sabarwal and Terrell (2011), however, have claimed that there is a lack of evidence regarding gender amongst entrepreneurs in developing countries, and various studies call for a better understanding of the gender gap across cultures (Krueger Jr, 2007; Liñán and Chen, 2009; Wilson et al., 2009). In Middle Eastern countries, studies have shown that the female contribution to entrepreneurial activity is significantly lower than that of men (Bullough et al., 2017; Rodríguez Gutiérrez et al., 2014; Tlaiss, 2015), while in Saudi Arabia women comprise only about 20% of the workforce (Saudi Ministry of Labour Force, 2016). There remains a lack of studies of gender issues in Saudi Arabia, a failing that is made more acute by the recent forms of policies and procedures. This research aims to fill this gap by examining how formal and informal institutional factors in Saudi Arabia influence the different genders in respect to becoming entrepreneurs.

The ambiguity around gender performance difference and its measurement have led to friction among researchers in the field of gender and entrepreneurship. For example, efforts to understand the factors that affect gender differences in entrepreneurship range from considering the social environment (Alvarez and Urbano, 2011; Mathur-Helm, 2005; Santos et al., 2016; Shinnar et al., 2012) to individual-level factors (DeTienne and Chandler, 2007; Kourilsky and Walstad, 1998). Research has shown that the entrepreneurial environment, in terms of formal and informal institutional factors, also has significantly differing effects on entrepreneurship according to gender. Specifically, there are two key factors that help generate the gender gap in the Saudi context: how formal institutions support the genders differently and the negative influence of culture on women, such as the stereotype that entrepreneurship is male-dominated. Earlier research has therefore suggested a need to investigate the reasons for the lack of contribution of women entrepreneurs in comparison to men (Bird and Brush, 2002; Marlow and Patton, 2005).

As noted earlier, the objective of this chapter is to examine the influence of formal and informal institutions on entrepreneurial activity, respectively, men and women in a Saudi context. This study builds on previous research on gender and entrepreneurship in various ways. First, the study sheds light on recent changes in the economy produced by Saudi leaders' vision of reducing the dependence on natural resources and diversifying the economy by promoting small and medium enterprises and entrepreneurial activity for both genders (Vision, 2016). Second, the study highlights the influence of formal and informal institutional

factors on each gender's involvement in entrepreneurial activity. Third, a comparison is made between genders using a primary sample in which respondents are characterised in terms of education, age, work status, and the part of the country that they live in. The equal involvement of both genders in entrepreneurial activity is key to social well-being and economic development (Vision, 2016). Thus, this study seeks to demonstrate how environmental factors affect each gender's involvement in entrepreneurial activity.

As previously noted, this chapter uses institutional economics (North, 1990; 2005) as a theoretical framework to analyse the gender barriers faced by Saudi citizens and to measure the change that has occurred recently in formal Saudi institutions (Vision, 2016). Given that Vision2030 aims to reform the policies and laws that are considered obstacles for young people, and specifically women, in terms of entrepreneurial activity, it could also alter social attitudes and behaviours. Thus, the institutional environment is defined as government policies and cultural practices that help or hinder entrepreneurial activity at the national level (North, 1990; 2005). North distinct institutional theory into two dimensions: first, formal institutions that represent the government's written constitutions; second, informal institutions that epitomise the unwritten codes that drive social behaviours. Culture and government legislation directly impact individuals in terms of their becoming entrepreneurs in various environments (Alvarez and Urbano, 2011). Naguib and Jamali (2015) have emphasised the need to employ institutional theory for understanding the mechanisms and efficiency of a country's citizens social behaviour.

Following the introduction, this chapter is organised as follows. Section 2 presents the outcome of the literature review and the hypotheses. Section 3 provides the data set and methodology used to empirically examine the impact of institutional factors on the intentions of the different genders in terms of becoming entrepreneurs, and section 4 offers the results of the analyses. Section 5 includes a discussion. Finally, section 6 presents the conclusion, and policy implications, and study limitations to be considered, and directions for future research.

5.2 Literature Review

As already noted, institutional economics has the potential to affect our understanding of entrepreneurial development in different institutional environments. North (1990; 2005) originally proposed that institutions are the crucial engines that drive entrepreneurial activity within different environments, playing a pivotal role in helping or hindering human activity. North divided institutions into formal and informal institutions. Formal institutions account for government policies, and political laws, while informal institutions encompass social values, social behaviours and the culture of the society. Hence, North implies that institutions mainly reduce transaction costs, and uncertainty around new ventures (North, 1990; 2005).

Although there are many theories that have examined the contribution of entrepreneurial activity (Welsh et al., 2017), institutional theory is particularly suited to this study for several reasons: it allows for

a clear-cut measure of entrepreneurial activity within the context of changing economies; it allows the investigation of formal factors arising from formal environments in terms of new rules; finally, it allows for an analysis of the effect of these changes in the formal environment on society (Bruton et al., 2010; Urbano et al., 2019; among others). Institutional theory is a robust way of analysing the environmental factors (Aidis et al., 2008; Alwakid et al., 2020; Aparicio et al., 2016, 2020a) and demonstrates the importance of understanding the mechanisms and efficiency of a country's institutional system (Naguib and Jamali, 2015). Therefore, it appears that the institutional environment represents a critical influence on women's inclination to entrepreneurship (Aidis et al., 2007, 2008; Noguera et al., 2013, 2015; Welter and Smallbone, 2008). Previous scholars have arrived at similar findings in respect to the relationship between entrepreneurship and the institutional environment (Alvarez et al., 2011; Alwakid et al., 2020; Noguera et al., 2013). In this sense, this chapter is applying institutional economics (North, 1990; 2005) as a theoretical framework to understand entrepreneurship.

To organise the discussion of the institutional factors, and following North's (1997) view of entrepreneurs as the main agents of change, as they adapt to the opportunities and limitations provided by institutions, the study starts with formal institutional factors. These factors explain the government's newly-released regulations concerning entrepreneurial activity, such as the various forms of government support and new procedures. Next, the research moves on to discuss informal institutions with the aim of capturing the perceptions of the different genders in terms of relationships and networking, as well as of entrepreneurs and associated stereotyping.

5.2.1 Government Support

Although an increasing number of government policies and practices support entrepreneurial activity, previous research has shown a higher percentage of male entrepreneurs in comparison to female (Aidis et al., 2008; Verheul et al., 2005). Studies have also noted the different views of gender perception and the influence of formal institutions, such as government support. Studies show both positive and negative effects of government support on entrepreneurship. For example, training, awards, prizes and programme development are different forms of government support that can increase the involvement of individuals in entrepreneurial activity (O'Connor, 2013). Kourilsky and Walstad's (1998) study regarding young Americans' perceptions and knowledge about entrepreneurship found that women were less aware of government support than men. Thus, unattractive or inefficient policy environments in respect to entrepreneurship often have an inherent gender bias against women (World Bank Report, 2003-2006).

Previous studies have shown that the perceived absence of government support present a more substantial barrier for women moving towards business creation than it does for men (Hattab, 2012). Shinnar et al. (2012) discussed different types of support for entrepreneurship, including institutional support. As noted above, the formal institutions present the written constitutions and commands of

governance (North, 1990). Since a formal institution, such as government support, is vital, its absence may, therefore, affect women more than men (Shinnar et al., 2012). This acts as more of a barrier for women in the Saudi context than for men and, as a result of that, women in the Saudi market force only compromise of approximate 22.2% (Ministry of Labour Force, 2016).

However, in 2005 women gained the right to vote in the Majlis Ash-Shura Council, which is the formal advisory body that drafts the constitutional laws of the government. In 2016, Vision 2030 explicitly and positively stated the importance of supportive laws for increasing entrepreneurial activity, emphasising that women should have an equal opportunity to access this support (Vision, 2016). These reasons showed how over the years women have faced more barriers to gaining government support than men, which have observed by government. Danish and Smith (2012) conclude that while there is an increasing number of opportunities for women to become entrepreneurs in Saudi Arabia, their contribution rate is still low in comparison to men. Therefore, we hypothesise:

Hypothesis 1. *The higher the government support towards entrepreneurial activity, the higher the probability of individuals engaging in entrepreneurial activity.*

Hypothesis 1a*. Men have a higher awareness of government support than women.*

Hypothesis 1b. *The lack of government support will decrease the probability of women becoming entrepreneurs more than their male counterparts.*

5.2.2 Government Procedures

When it comes to studying the role that environmental factors play in determining the rate of engagement in entrepreneurial activity, prior findings highlight different dimensions that have a significant influence on entrepreneurs, including government policies and procedures (Aparicio et al., 2016; Gnyawali & Fogel, 1994; Urbano, 2006). According to North (1990), policies and procedures are associated with formal institutions. The previous research has shown the significant effect of efficient government procedures and policies, specifically on business creation and growth (Aidis et al., 2008; Aparicio et al., 2016; Begley et al., 2005; Urbano, 2006). Reduced bureaucracy may result in a more efficient entrepreneurial environment (Aidis et al., 2008; Urbano, 2006). Despite the sudden rise in entrepreneurial activity, studies show that an average of four days is needed to start a business in a developed country, such as the United States of America (Meyer and Peng, 2005), whereas, in a developing country, such as in East Africa, it might take over fifty days (Khavul et al., 2009).

In Saudi Arabia, starting a firm or starting self-employment are regulated by different government agencies. Entry restrictions apply to firms of all sizes if they want to operate in the kingdom. The process of obtaining license permits is very time consuming from the initial appointment to checking up the business for licencing. Therefore, according to the Doing Business Report, starting a new venture in Saudi requires the completion of at least seven separate procedures (World Bank Report, 2018). This substantial entry

procedure is imposed by each ministry of the government and needs to be completed gradually. Previous findings have shown the importance of reducing government procedures, especially for women to start their businesses. Alturki and Braswell (2010) found that government bureaucracy is one of the main obstacles that Saudi women face while engaging in entrepreneurial activity. An empirical study of obstacles faced among the genders in Saudi Arabia found that 75% of the total sample claimed that the rigid registration procedures for business creation created a strong impediment for them to start their business venture. Although online registration procedures are available as part of Vision 2030, to accelerate business creation (Vision, 2016), it is still required for women to present themselves to various government agencies physically. The gender issue acts as a barrier for woman entrepreneurs when they are licensing their businesses because of their lack of freedom to socially interact in governmental institutions without a male guardian (Welsh et al., 2014). In this sense, the bureaucracy of policies and procedures have a significant negative influence on individuals as they try to start a business, therefore, we propose the following hypotheses:

Hypothesis 2. *The fewer government procedures around entrepreneurial activity, the higher the probability of individuals engaging in entrepreneurial activity.*

Hypothesis 2a. *Men have a higher awareness of government procedures than women.*

Hypothesis 2b. *More government procedures will decrease the probability of women becoming entrepreneurs more than their male counterparts.*

5.2.3 Networking

A number of studies have investigated the efficacy of entrepreneur networking. Networking has a positive influence on increasing individual participation in entrepreneurial activity. Yet, Ibarra (1992) found that networking differs between genders, and male social networks are more heterogeneous than female ones. The benefits of entrepreneur networks include entrepreneurial alertness (Ardichvili et al., 2003) and opportunity recognition (DeTienne and Chandler, 2007). Aidis et al. (2008) found that individuals were more likely to start a venture if they knew entrepreneurs. They also found that informal institutions, such as networks, are pivotal for entrepreneurs to gain social capital and access to funds (Carter et al., 2003; Kickul et al., 2010; Noguera et al., 2015). In this sense, entrepreneur networks offer channels to exchange ideas, information and experiences, which could result in challenges being overcome with regards to business creation and growth.

Audretsch, Aldridge and Sanders (2011) have provided an overview of the importance of social networks for facilitating entrepreneurship. The National Foundation for Women Business Owners (2001) has posted that women are more likely to benefit from outsourcing networks in business creation than men. The liberal feminist view upholds the importance of different sources, which includes networks; however, the limiting of a network may stand as a barrier to women involvement in entrepreneurial activity (Aidis et

al., 2008; Carter and Williams, 2003). According to Welsh et al. (2014), Saudi women lack access to formal networks and suggest that barriers such as a lack of a network decrease their entrepreneurial contribution. Furthermore, it was found that Saudi women face several challenges, including access to the formal network and difficulty establishing informal relationships and networks (Alturki and Braswell, 2010). The research suggests that informal institutions, such as networks, have a negative influence on women becoming entrepreneurs compared to men in the context of Saudi Arabia because women have limited access to formal and informal networks. Accordingly, we hypotheses:

Hypothesis 3. *The greater the access to entrepreneurial networks, the higher the probability of individuals engaging in entrepreneurial activity.*

Hypothesis 3a. *Men are perceived to have higher network access than women.*

Hypothesis 3b. *The lack of network access will decrease the probability of women becoming entrepreneurs more than their male counterparts.*

5.2.4 Stereotyping

A Gender stereotype is more a matter of oversimplifying and failing to acknowledge the different genders in terms of their distinct characteristics and features (Heilman, 1984; Powell, 2018; Sexton and Bowman-Upton, 1990). Ideally, the nature of differences between the genders lies in their qualities, in terms of communal qualities for women and agentic qualities for men (Gupta et al., 2009). These authors claimed that male agentic qualities include competitiveness and aggressiveness, assertiveness and ambition, and stressing the bottom line, while woman's communal qualities include engaging in compromise and negotiation, modesty and tenderness (Gupta et al., 2009). Women are more likely to operate businesses in the service industry, while men are more likely to operate businesses in manufacturing (Sexton and Bowman-Upton, 1990). This shows how different gender qualities influence the behaviours of each gender in terms of business ownership, and it shows not only their descriptive stereotypes but also their prescriptive stereotypes (Gupta et al., 2009; Heilman et al., 2004).

As already stated, Saudi Arabia is a patriarchal society where the traditional role of a woman is to be a homemaker and rear children. The literature on entrepreneurial studies considers the effect of informal institutions such as gender stereotypes. Sadi and Al-Ghazali (2010) noted that female entrepreneurs face multiple barriers globally, including gender discrimination. An empirical study of Saudi woman entrepreneurs suggested that strong gender stereotypes in male-dominated markets act as barriers for female involvement in entrepreneurial activity (Sadi and Al-Ghazali, 2010; Welsh et al., 2014). The negative effect of the public perception of entrepreneurship as a masculine trait results in decreased enthusiasm amongst women for starting their ventures (Baron, Markman, and Hirsa, 2001; Carter, Anderson, and Shaw, 2001). In this vein, it has been found that gender stereotypes have not hindered Saudi women from growing their

businesses, yet society's expectations may result in a negative perception on them for achieving and being entrepreneurs (Zamberi Ahmad, 2011). Accordingly, we propose the following hypotheses:

Hypothesis 4. *The more pronounced the stereotypical attitudes towards entrepreneurial activity, the lower the likelihood of individuals engaging in entrepreneurial activity.*

Hypothesis 4a. *Women perceived a higher stereotype than men.*

Hypothesis 4b. *The more pronounced the stereotypical attitudes the more the probability of women becoming entrepreneurs will decrease compared to their male counterparts.*

5.3 Methods

5.3.1 Data and Sample

As mentioned, the primary data for this chapter was collected via a survey that was distributed online in between February and March of 2019. A stratified sampling technique ensured that all parts of Saudi Arabia were represented (North, South, East, West and Central) (Carter et al., 1997). The technique is commonly used in the entrepreneurship field to select a specific group known as strata to improve precision (reduce error) relative to simple random sampling (Neyman, 1934). The sample was collected via official networks, such as universities (University of Business and Technology and King Abdulaziz University), other organisations (Badir and WED), and the government, represented by the Small and Medium Enterprise General Authority (Monshaat). The survey was emailed via these channels three times, with reminder emails weekly between the first and second emails. Furthermore, the last step targeted entrepreneurial events sponsored by Chambers of Commerce: the Basta Market and Entrepreneurs' Forum. The main goal in targeting these events was to ask the visitors to complete the survey, as these events have a high number of visitors who are familiar with both business and entrepreneurship (Begley et al., 2005; Gupta et al., 2009).

Since the study was being conducted in an Arabic-speaking country, the survey questions were translated from English to Arabic and back-translated into English. Following Gupta et al. (2009), and to ensure accuracy, the translation went through four academics in entrepreneurship who are bilingual in both Arabic and English. As an initial step to improve the validity and reliability of the survey, a pilot study was conducted with 15 academics and business owners. After reviewing their comments, slight adjustments were made to the questions to make them better fit the context of the study (DeTienne and Chandler, 2007).

Thus, the survey consisted of two parts. The first part consisted of demographics questions focused on the demographic information of respondents. The second part consisted of questions focused on measuring formal and informal institutions. The latent variables were measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). In all, 466 survey were collected, but only 338 were included in the analysis after removing surveys where respondents did not complete the whole survey. For the sample size, the paper followed a rule suggested by Austin and Steyerberg (2015), that sample size

should be at least ten observations per variable. The items in the survey were established first based on benchmarking to previous studies (Audretsch et al., 2011; Gnyawali and Fogel, 1994; Gupta et al., 2009; GEM, 2017), before then being adapted to fit the Saudi context. The variables are described in detail in Table 5.1.

5.3.2 Variables

The The dependent variable in this study are entrepreneurs, who are represented by a dummy variable set at one if s(he) is an adult in the process of starting his/her business or who has started his/her business within the preceding 3.5 years. This classification from the Global Entrepreneurship Monitor project (GEM) is derived from the 'TEA' Total Entrepreneurial Activity measure used to define entrepreneurs in their early stage of entrepreneurial activity (GEM, 2017). The GEM classification was used because entrepreneurship is an evolving concept in Saudi Arabia and therefore it is more applicable to measure entrepreneurs in the early stage of their entrepreneurial activity. Additionally, GEM is the largest network of entrepreneurship surveys globally and includes more than 60 countries, having existed for over fifteen years, and providing an annual report of entrepreneurial activity from different nations (GEM, 2017).

In terms of independent variables, the formal institutional dimensions are measured by two variables: government support and government procedures, while the informal institutional dimensions are measured by stereotyping and networking. Thus, government procedures are measured in terms of a dummy variable, while the other factors follow a five-point Likert scale between 1 (strongly disagree) and 5 (strongly agree).

Previous findings showed how socioeconomic factors explain entrepreneurial activity in terms of the different features associated with each gender (Arenius and Minniti, 2005; Minniti and Nardone, 2007). Accordingly, relevant socioeconomic control variables were included, namely: age, employment, higher education and skills. First**,** age of the respondents; according to Collins-Dodd, Gordon and Smart (2004), women and men become involved in the workforce at different ages since women may be affected by child-rearing. Accordingly, the study asked the respondent's age, which contains the age of the respondent in years, from 18 to 64 years old. Second, the influence of education on the decision to pursue self-employment is central in the literature (Robinson and Sexton, 1994) and has a direct effect on nascent entrepreneurship (Davidsson and Honig, 2003). According to Aidis et al. (2008), educated men find entrepreneurial activity more appealing. For these reasons, the study controlled for higher education attainment, with a dummy variable of one for individuals who achieved secondary education and higher, and zero otherwise. Third, research suggests that women who work part-time are more likely to have smaller firms and therefore keep their business limited to the same size (Alsos et al., 2006). There are various individual-level factors that need to be explained and understood while exploring gender differences, such as the time spent on domestic work (Alsos et al., 2006; Gunnerud, 1997). Accordingly, the study included a dummy variable that is one

if the respondent has either a full or part-time job excluding self-employment , a zero otherwise (Aidis et al., 2008). Lastly, research shows that skills are vital for human development (Gallant et al., 2010; Mehtap et al., 2017). Obtaining higher skills reflects positively on individuals' capabilities and confidence with regards to engaging in entrepreneurial activity (Urbano and Alvarez, 2014). Thus, women with fewer skills are less confident than men with the same amount of (fewer) skills (Welsh et al., 2017). Therefore, the study control for skills obtain, with a dummy variable of one for individuals who have skills to establish a business or manage, and zero for no.

Table 5. 1 Description of Variables

Variable	Description of Variable	Possible values
Dependent variable		
Entrepreneur	Entrepreneur defined as an adult who is in the processing to start a venture or owning and managing a business with less than 3.5 years.	1= Entrepreneur 0= Otherwise
Independent variables		
Formal Institution		
Government supports	The respondents are asked to rate: If there is a lack of government supports for entrepreneurs in terms of laws and regulations.	Item: Likert scales from 1 strongly disagree to 5 strongly agree
Government procedure	Dummy variable that indicates whether the respondents agrees with the statement: do you think the registration procedure has many steps to follow and takes you a long time to start your business?	1. Yes 2. No
Informal Institutions		
Networking	The respondents are asked to rate: if family tribe and network have a positive influence on my business start-up/growth.	Item: Likert scales from 1 strongly disagree to 5 strongly agree
Stereotyping	The respondents are asked to rate: Is that correct; there is a lack of respect within the community for women entrepreneurs and encouragement for men.	Item: Likert scales from 1 strongly disagree to 5 strongly agree
Control variables		
Age	The exact age of respondents in years.	Age of respondents between 18-64
Higher education	The respondents are asked to identify the highest level of education achieved.	1= has attained secondary education and higher; zero otherwise
Employment	The respondents are asked to identify their current employment.	1 = either having full or part-time job only; zero otherwise
Skills	Dummy variable that indicates whether the respondents agree with the statements: do you think you have the skills required to start a new business?	1. Yes 2. No

5.3.3 Measures

Table 5.2 shows the results of the correlation coefficients between dependent variables and both predictors and control variables. Table 5.3 provides the results of the *t*-test to explore possible differences

in perceptions between male and female entrepreneurs. Table 5.4 provides the results of the binary logistic regression models used to analyse the influence of environmental factors on each gender separately and then in the full sample.

Logit was used to test the relationship between the four proposed hypotheses in formal and informal institutional environments. Thus, the multivariate analysis in the following section is based on a series of additive models. Table 5.4 shows Model 1, which contains individual socioeconomic characteristics with institutional factors in two levels for the male sub-group. Model 2 repeats the same procedure but within the female sub-group. Lastly, following the previous work, in Model 3, the study reports the full sample including both genders (Yordanova and Tarrazon, 2010).

Table 5.2 illustrates the results of the correlation coefficients between the dependent variable and exploratory variables used in the study. The correlation tables do not indicate a likely correlation between the independent variables, with the highest at (.20) between skills and education. In order to avoid any multicollinearity, the study computed Variance Inflation Factors (VIFs) (Hair et al., 1998). The values of the VIFs suggest that there is no problem with multicollinearity. Accordingly, the study checked for possible heteroskedasticity among observations, and robust standard errors were assessed (White, 1980).

Table 5. 2 Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9
Entrepreneur	1								
Government supports	.01	1							
Government procedures	-.04	.15**	1						
Networking	.01	.04	-.02	1					
Stereotyping	-.08*	.12**	.02	.16**	1				
Age	-.06	-.01	.12**	-.11**	-.06	1			
Higher education	-.01	-.07	.08*	.04	-.16**	-.01	1		
Employment	.12**	.01	-.04	.02	.01	-.16**	.05	1	
Skills	.35***	.08*	.09*	-.13**	-.01	-.14**	.20***	.10*	1

***significant at p ≤ 0.01; **significant at p ≤ 0.05; *significant at p ≤ 0.10.

5.4 Results

Bivariate *t*-tests were employed to determine the differences in perceptions between the genders. No statistically significant differences were associated with male and female perception of government procedures and networking. Table 5.3, however, shows that there are statistically significant differences in perception between men and women in terms of government support and stereotyping. The men have a higher awareness of the fact that there is government support than women do ($p < 0.10$, $X^2 = 1.49$). With regards to stereotyping, the result shows that women perceived higher stereotyping than their male counterparts ($p < 0.05$, $X^2 = -2.22$). These results support H1a and H4a. However, there is no support for hypotheses H2a and H3a.

Table 5. 3 Differences between Means Standard Deviations and *t*-Value

Variable	Male Entrepreneurs		Female Entrepreneurs		Combined		*t* test (H0: Male= Female)
	Mean	SD	Mean	SD	Mean	SD	
Government support	3.58	.09	3.37	.10	3.47	.07	1.49*
Government procedures	.69	.04	.75	.03	.72	.02	-.99
Networking	3.04	.11	2.91	.11	2.98	.08	.82
Stereotyping	2.72	.10	3.05	.11	2.89	.07	-2.22**
Observations	165		173		338		

***significant at $p \leq 0.01$; **significant at $p \leq 0.05$; *significant at $p \leq 0.10$.

Table 5.4 provides the results of the three binary logistic regression models, the sub-sample of males, the sub-sample of females, and for the whole sample. The three models are highly significant to predict results (Model 1: $\chi^2 = 26.05$***; Model 2: $\chi^2 = 30.07$***; Model 3: $\chi^2 = 49.59$***). The pseudo- R^2 values show the percentage of variance in the dependent variable, which varies from .1246 to .1578, so it is assumed to be a fairly good model.

Models 1 and 2, shown in (Table 5.4), reported the results of our binary logistic regression test for each sub-group of the sample, solely to analyse the main differences between the genders. Following prior research, model 1 reports on the male sub-group, and model 2 reports on the sub-group of females (Yordanova and Tarrazon, 2010). Our results show that networking and stereotyping significantly affected the probability of women becoming entrepreneurs more than their male counterparts. Our H3b hypothesis: that lack of network access will decrease the probability of women becoming entrepreneurs more than their male counterparts, was supported (Woman β=.37, $p < 0.01$; Men β=-.21, $p < 0.10$). Consistent with previous research, our results showed networking to be a positive and strong predictor for women in contrast with men in terms of increasing the probability of their involvement in entrepreneurial activity (Aidis et al., 2008; Carter and Williams, 2003). In addition, hypothesis 4b's proposition, that perceiving stereotypes would decrease the probability of women becoming entrepreneurs more than their male counterparts, was also supported (Woman β=-0.25, p <0.10; Men β=-0.14, p >0.10). Prior research has found stereotyping to have a negative effect on women in Saudi Arabia (Sadi and Al-Ghazali, 2010; Welsh et al., 2014). Our results indicated that stereotyping is perceived negatively by both men and women, but it is more significant for women and has higher coefficients in comparison to men. Moreover, it is noteworthy that the formal institutional factors, in terms of government support and procedures, showed no significance in terms of the probability of men and women becoming entrepreneurs ($p > 0.10$). There is therefore not enough evidence to support our proposed hypotheses 1b and 2b.

In model 3, shown in Table 5.4, we entered the formal and informal factors with the control variables for the whole sample. The model shows that no statistically significant results were found in respect to neither males nor females in terms of government support and procedures, and networking. The results in Table 5.4, however, noted that stereotyping is an important predictor for both genders. The results indicate

that less stereotyping increases the probability of an individual's involvement in entrepreneurial activity at ($p < 0.05$). Thus, Hypothesis 4 is supported. There is no support for our proposed hypotheses H1, H2 and H3, however. Moreover, with regards to control variables, the study found that being young is a vital characteristic in respect to the probability of an individual becoming involved in entrepreneurial activity. The coefficient of age is negative and significant at ($p < 0.05$). With respect to employment, the result shows that having either a full or part-time job is significant for individuals' probability of being involved in entrepreneurial activity at ($p < 0.10$). Also, skills are another important feature, with a positive and significant relationship to the probability of someone becoming an entrepreneur ($p < 0.01$). Lastly, the results report that higher education is not a significant predictor for the probability of individuals to get involved in entrepreneurial activity at ($p > 0.10$).

Table 5. 4 Logistic Regression Results

Variables	Model 1 (Male)		Model 2 (Female)		Model 3 (Combined)	
	Coefficient	**Robust SE**	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Formal Institution						
Government supports	-.18	.15	.03	.13	-.03	.09
Government procedures	-.09	.38	-.37	.40	-.23	.26
Informal Institutions						
Networking	-.21*	.12	.37***	.14	.09	.09
Stereotyping	-.14	.14	-.25*	.13	-.19**	.09
Control variable						
Age	-.04*	.02	-.03	.02	-.04**	.02
Higher education	-.16	.53	-.54	.47	-.42	.35
Employment	-.01	.43	.75**	.36	.49*	.25
Skills	1.87***	.41	1.79***	.38	1.71***	.26
Observations	165		173		338	
Log likelihood	-97.15		-100.58		-.205.01	
Pseudo *R2*	.1405		.1578		.1246	
Wald chi2	26.05***		30.07***		49.59***	

***significant at p ≤ 0.01; **significant at p ≤ 0.05; *significant at p ≤ 0.10.

5.5 Discussion

As mentioned earlier, in this chapter, the study sough to test the influence of formal and informal institutional factors on entrepreneurial activity amongst men and women in Saudi Arabia. While several studies have stated the importance of understanding the gender gap across cultures (Krueger Jr, 2007; Liñán and Chen, 2009; Wilson et al., 2009), this chapter offers empirical evidence for the perceptions and behaviours amongst different genders within a country that is strongly collective, yet with many new reform policies and procedures to empower youth and give them equal opportunity to get involved in entrepreneurial activity (Vision, 2016). This study therefore adds new knowledge to the existing literature. First, we examined the impact of reform policies and procedures in terms of empowering young people, and specifically women, to get involved in entrepreneurial activity. This study tested the effect of

environmental factors in terms of formal and informal institutional factors. It found that men and women perceive government support differently. This is fundamental, while the benefits of government support continue to appear for men more than women, women are less aware of government support and more likely than men to be subject to stereotyping for choosing to become entrepreneurs. Second, it found that younger people are more likely to become entrepreneurs than the elderly, and women who are involved in a full or part-time job are more likely to become entrepreneurs. Lastly, this study is the first attempt to examine empirically the impact of the changes in government systems in terms of empowering young people, and particularly women, to become entrepreneurs within the central country of the Islamic world. The study might, therefore, offer a basis for future research to understand the perceptions and behaviours of individuals in the Middle East, specifically in the Gulf Region.

Furthermore, the chapter's focus is to identify how different genders perceive and behave with environmental factors, and thus explain the reasons behind the gender gap. The results showed that men perceive higher government support than female counterparts. This may explain why men have dominated the Saudi economy over the years, alongside with cultural conservatism. The results also reveal the negative impact of informal factors such as stereotyping on aspiring entrepreneurs. It showed that women are more likely to be influenced by stereotyping than men. According to the results obtained, the negative perception and behaviours of society towards women becoming entrepreneurs hindered many women in respect to business creation. Previous research has claimed that individuals who become entrepreneurs are more driven by masculine characteristics (Gupta et al., 2009). Major obstacles faced by female entrepreneurs are therefore related to difficulties their presence in a male-dominated market. This may decrease their willingness to engage in business creation.

Lastly, the results show that increased networking reflects positively on woman's behaviour to get involved in entrepreneurial activity, but men are less likely to benefit from networks. The results support the National Foundation for Women Business Owners' (2001) claimed for women are more likely to benefit from outsourcing networks in business creation than men. The findings show that gender plays an important role when it comes to networking. Women are more likely to be at ease with obtaining information and tips than men for business creation. The result therefore confirms those of previous studies regarding the importance of informal institutions (Mathur-Helm, 2005; Santos et al., 2016; Shinnar et al., 2012; Urbano and Alvarez, 2014). It highlighted the greater impact of informal institutional factors than formal institutional factors. Informal institutional factors remain stronger predictors of woman's behaviour towards entrepreneurship.

5.6 Conclusion

This chapter adds to knowledge about the influence of institutional factors in terms of formal and informal institutions on entrepreneurial activity amongst men and women in Saudi Arabia. As already

mentioned, the Saudi Arabian economy has begun shifting its focus from exploitation of natural resources and large corporations to accelerating small and medium-sized enterprises, therefore, empowering youth and women. The utilising of institutional economics as a theoretical framework provides the research with main factors that need to be undertaken while studying gender and entrepreneurship in one context. The results reported that informal factors provide a greater impact on different gender than formal ones.

The study also provides empirical evidence that gender interacts differently when it comes to their perceptions and behaviours toward business creation. Women are less likely to be aware of government support, more likely to benefit from networking, and more likely to be stereotyped by being entrepreneurs. The results should provide the policymakers with the right alert. There are difficult challenges to be considered and overcome for women to become entrepreneurs, which may result in increasing their involvement in entrepreneurial activity. These challenges are not limited to formal institutions, but also informal ones. It is necessary to change society's perspective of women from the stereotypical child-rearing and homemaker role to that of a productive and knowledgeable worker that may sustain the economy of Saudi Arabia.

5.6.1 Policy Implications

The findings give essential insight for policymakers to increase female involvement in entrepreneurship. Government support is less appealing to women. Previous research identified the vital role of government support to establish awareness for aspiring entrepreneurs, specifically women (Shinnar et al., 2012). The study's findings, therefore, suggest that policymakers should start training and development programmes, prizes, and awards for aspiring entrepreneurs. The government should give women insights about the support offered to them. With this era, new media channels such as social media make it possible to reach individuals at different places of the country, and the government can use these to announce policy changes and their implementation.

Furthermore, the results showed that networking is another key factor in increasing women's propensity to becoming entrepreneurs. Ease of access to networks is important for women to become entrepreneurs (National Foundation for Women Business Owners, 2001; Noguera et al., 2015). Prior research suggested that the benefits of the network are not only limited to assisting women to gain social capital and funds for establishment (Carter et al., 2003; Kickul et al., 2010) but also more to do with opportunity recognition (DeTienne and Chandler, 2007). In this sense, the study suggests that policymakers should have a centre for individuals, particularly women, to exchange information. This hub should have both government representative and agency services related to establishing a business venture.

Lastly, the results reported that women are more likely to perceive stereotyping than male counterparts. Stereotyping has a negative influence on both genders, but is particularly potent in discouraging women from becoming entrepreneurs. Sadi and Al-Ghazali, (2010) and Welsh et al. (2014) stated the importance

of overcoming the many barriers faced by women if we are to increase their participation in entrepreneurial activity, this includes stereotyping of entrepreneurs as “a man’s job”. The negative social perception seems to affect female capabilities and their confidence to start their venture. The findings of this study therefore suggest that policymakers should have a public campaign in different parts of the country. This public campaign should explain the value of female entrepreneurs to society and the economic development of the country; therefore, it creates the right image of entrepreneurship, encouraging entrepreneurship in general but also amongst females by showing how they can manage a home and a business simultaneously

5.6.2 Limitations and Future Research

The chapter has faced several limitations. First, the primary data was distributed online this year, and 338 participants completed, as organisations and universities do not give direct access to send reminder emails to the target sample. Therefore, the capture of behaviour is limited to the number of respondents that completed the survey. Future research should consider finding different tools to increase the interactive access to respondents. This will assist researchers in creating a deeper understanding and strongly representing the behaviours of individuals in respect to this evolving concept in the country.

Because the impact of formal and informal institutional factors amongst each gender are taken from a sample in their early growth period, the findings of this study are not generalisable to established entrepreneurs. Established entrepreneurs may face similar challenges such as a lack of government support, poor networking, or even stereotyping. Future research should consider including established entrepreneurs and compared with the early stage of entrepreneurs. This will help the policymakers to see different reasons behind the gender gap.

Another limitation of the chapter was the lack of the dataset in terms of the controlled variables. It is observed that the marital status and number of children are essential predictors to control, especially for women in their involvement of entrepreneurship (Parker, 2018; Van der Zwan, Verheul, and Thurik, 2012). For example, the findings show that women that have a full or part-time job are more likely to start engaging in the workforce. Prior research found that husbands crucially influence their wife’s decision on becoming self-employed (Caputo and Dolinsky, 1998). The number of households is also essential while considering families in the Middle East, specifically the Gulf Region. There tend to be many more children in the family than in Western societies' families. Therefore, future research should consider the influence of these two factors while analysing gender differences in the Gulf region.

Lastly, the results and conclusions of this research are unique to the geographical context of Saudi Arabia. Therefore, they may not fit any other context or culture due to the different institutional systems. Additionally, the Saudi context is unique in terms of women’s limited interaction with men, from education to the workplace, due to the segregation of sexes. For future researchers, this study promotes an additional comparison with a country from the region to confirm the existence of these factors. This will further

contribute to understanding the barriers behind the nominal contribution by women to developing and emerging economies. Also, this will help policymakers in the future to establish the right burden of policies and procedures that might help or hinder women from becoming entrepreneurs.

Chapter 6

6 The Impact of Perceived Reform Policies on Women Entrepreneurs in a Saudi Context.

6.1 Introduction

Since 1945, drastic changes have occurred to the world as more and more women have joined the work force, raising the issue of gender equality in the workplace and throughout our society. Women's participation in the workforce eventually progressed from traditional workers as paid employees to business creators and owners. These positive changes in the environment towards gender equality have resulted in an increased number of women engaging in entrepreneurship. Global Entrepreneurship Monitor (2017) reported that, from 2014, there were 163 million women in 74 countries in the process of starting their ventures, while more than 100 million women in 63 countries established their business. This raises an important question of how women perceive reforms aimed at encouraging women towards entrepreneurial activity?

As previously explained, the research topic selected seeks to understand the position of women entrepreneurs in Saudi Arabia by adjusting the measurement of variables to fit that country's unique cultural context (Welter, 2011; Zahra, 2007). The study of women entrepreneurs in Saudi Arabia provides a distinct context for several reasons. As previously stated, the country is a leader among the Middle East and Gulf Region countries, it is central to the Islamic world, and one of the most important energy suppliers globally. In particular, Saudi Arabia's extremally conservative traditions concerning women set a cultural and political norm in the Middle East, given the country's status as a regional political and economic power. Although Saudi Arabia has traditionally segregated facilities between men and women, including in and the workplace, it has recently begun an economic and cultural transition away from the oil industry and large corporations. A key part of this transition is the aim to empower the young generation, and specifically women, to get involved in entrepreneurial activity (Vision, 2016).

The objectives of this chapter are to investigate how perception of these reform policies affects female entrepreneurs, and how this effect can be mediated through informal institutions in terms of social image and family support. It is intended that this study will help both policymakers and scholars in the field of entrepreneurship to understand how the perception of reform policies directly empowers more women to become entrepreneurs. Secondly, it shows the mediating role of informal institutions through family support and social image in determining the extent of female entrepreneurship. Using data recently collected from Saudi Arabia helps the research to obtain a deeper understating of the social behaviour of women and their attraction to entrepreneurship through different institutions. Finally, since this study is one of the few studies on female entrepreneurs in Saudi Arabia, the findings should form a basis for future studies seeking to know more about female entrepreneurs' conditions in the Gulf Region, and more broadly within the Middle East.

As noted earlier, existing literature validates the use of institutional economics as a framework to deepen the understanding of environmental conditions that are related to entrepreneurial activity. Previous studies have confirmed the significant impact of institutions on individuals' decisions to be involved in entrepreneurial activity (Gimenez-Jimenez et al., 2020; Noguera et al., 2013; Shinnar et al. 2012; Thornton et al., 2011), and thus this research employs institutional economics (North, 1990; 2005) as a theoretical framework to understand the effect of formal and informal institutional factors on women entrepreneurs in the Saudi context.

The rest of the chapter is split into five sections. The following section provides an understanding of the theoretical framework of the study, and develops hypotheses. Section 3 sets out the methodology used. Section 4 reports the relevant results. Finally, section 5 provides the concluding remarks with implications, and limitations and direction for future research.

6.2 Theory and Hypotheses Development

Many scholars in different fields have investigated what variables are associated with individuals' decisions to start a business. Existing research shows that the probability of becoming an entrepreneur is affected by various factors, and that each gender approaches entrepreneurship differently (DeTienne and Chandler 2007; Langowitz and Minniti 2007; Marlow and Patton 2005; Noguera et al., 2013). Research also found that the rate of entrepreneurship is higher amongst men than women (Arenius and Minniti, 2005). According to this view, this study postulates that women need to be examined as a separate group in order to understand the main driver of their involvement in entrepreneurial activity.

Several recent research papers have attempted to understand how institutions influence entrepreneurial activity (Aidis et al., 2008; Bruton et al., 2010; Noguera et al., 2013). As discussed earlier, North (1990) identified institutions as "the rules of the game of the society" and separated institutions into formal institutions, encompassing laws and governmental policies, and informal institutions, representing the norms and culture of a society. From this perspective, scholars have found that each of these levels of institutions are, in their own ways, significant indicators of entrepreneurial activity (Aparicio et al., 2016; Dilli and Westerhuis, 2018; Gimenez-Jimenez et al., 2020; Noguera et al., 2015). This study used therefore used institutional economics (North, 1990; 2005) as a theoretical framework to examine the direct effects of the perception of reform policies and the indirect effect of informal institutions in terms of perception of social image and family support on female entrepreneurship. Specific hypotheses regarding these relationships are presented below.

6.2.1 The Direct Roles of Formal Institutions

Government policies and laws (formal institutions) act as methods to influence or control the market. In contrast, informal institutions represent a culture and social norms for society to interact within those boundaries (North, 1990). In other words, institutions impute as the basic social structure of society that

provide guidelines and restraints for individuals' behaviour. It is noted that the regulatory framework created by formal institutions influences, positively or negatively, the process of generating a business opportunity, while the perception of these entrepreneurial opportunities is assumed to be determined by informal institutions (Aidis et al., 2007; Welter and Smallbone, 2008). Furthermore, studies have indicated that gender is a factor in perceiving entrepreneurial opportunity (Brush et al., 2019; Welter and Smallbone, 2008), thus the behaviours for accessing the same business opportunity may differ between men and women. For example, formal institutions develop a rule or law that reinforces gender bias, such as more regulatory requirements or higher boundaries to access the system on women than men. Thus, formal institutions are a fundamental element that can either help or hinder entrepreneurship by creating a friendly environment or providing obstacles (Urbano et al., 2019).

Existing literature has shown the important influence of laws and policies on the entrepreneurial environment (Faisal et al., 2017; Gnyawali and Fogel, 1994). In the case of Saudi Arabia, many policies and informal structures have been changed to empower younger people and to give women an equal opportunity to engage in entrepreneurial activity (Vision, 2016). Specifically, there have been three main changes on policies and laws aimed at liberalising the environment for women: 1) allowing women the right to obtain a passport and to travel without the explicit authority of a guardian such as male relatives or their husband; 2) allowing women to obtain a driver's license and to be able to drive themselves without needing to rely on public transport or personal male drivers, 3) changing registration policies from manual to online services making it more convenient and faster for women to finish the licenses and procedures required to start their business (Vision, 2016). The study proposes that a positive perception among women of these reforms should lead to more female entrepreneurs; we thus propose the next hypothesis:

Hypothesis 1. *The perception of reform policies is positively associated with female entrepreneurs.*

6.2.2 The Mediating Roles of Informal Institutions

This research argues for the mediating roles of the perception of social image and family support in the relationship between perceived reform policies and women becoming entrepreneurs. Lee (1996) noted how gender is linked to social perceptions of specific roles. The author claimed that women are often described as having a higher need for social prestige than men, and that being an entrepreneur carries higher status than being a paid worker. Furthermore, Lee (1996) suggested that characteristics such as independence, self-achievement and social status present essential factors motivating women towards entrepreneurial activity.

Authors such as Henrich and Gil-White (2001) also addressed how social image, or in other words, social status, is vital in a communal society; therefore, individuals with higher social status influence others to follow them. Empirical evidence from Spain shows that social image is amongst the most important informal institutions factors for entrepreneurial entry (Alvarez et al., 2011). GEM (2016) noted that more

than 60 percent of the Saudi population believes that starting a new venture brings higher social status and respect.

Thus, the regulatory environment generates business opportunities while the perception of these entrepreneurial opportunities is assumed to be determined by informal institutions (Aidis et al., 2007; Welter and Smallbone, 2008). This study, therefore, argues that the perception of reform policies plays a fundamental role in decreasing barriers within the Saudi labour market. To fully understand the relationship between government policies and social image, the study proposes that the positive perception of reform policies anticipates a favourable social image of entrepreneurship within society, and that this in turn increases female attraction to entrepreneurial activity. Based on this argument, we, therefore, postulate that:

Hypothesis 2. *The perception of reform policies is mediated by a favourable social image.*

Existing literature addresses the pivotal role of family on individuals' behaviours, particularly in respect to women becoming entrepreneurs (Alam et al., 2011; Jennings and Brush 2013; Lin 1999; Welsh et al., 2016). A review of earlier research on the impact of family support on the likelihood of women becoming entrepreneurs reveals how essential family support is as it provides the potential entrepreneur with moral and instrumental support (Powell and Eddleston 2013; Welsh et al., 2016). Of these, the moral support is very important, both in emotional support for women's choice to become an entrepreneur, and in intellectual support in solving business problems (Eddleston and Powell 2012; Welsh et al., 2016). It was found that women from Turkey benefit from the moral support of family to increase their success rate (Welsh et al., 2016). That said, the Welsh et al., (2016) claimed that family moral support might be perceived negatively by women because it gives the family the power to interfere with the firm.

Another essential aspect of family support is the instrumental support represented by family members' suggestions and comments for women to establish a new firm (Davidsson and Honig, 2003). In this line, earlier research about the success factors for female entrepreneurs in Malaysia revealed that the support of family and friends is crucial for women's in the early stages of their entrepreneurial activity because it helps to improve their self-confidence in respect to starting a business (Alam et al., 2011; Alsos et al., 2006). Indeed, family-to-work support presents a distinguishing feature for women's success and development. On the other hand, self-employed women are expected to have a balance between their home and work; therefore, the conflict between work and home represents a barrier for women to start a business (Jennings and Brush, 2013). This is especially important in Saudi Arabia, where the perceived role of women in home and child-rearing is deeply engrained (Danish and Smith 2012).

Over the last four years, the Saudi government has relaxed several strict rules for the purpose of increasing female involvement in entrepreneurial activity (Vision, 2016). Notwithstanding the changes to formal policies, however, it is likely that cultural (informal) constraints are still a significant barrier for many women to engage in entrepreneurial activity. De Vita et al. (2014) noted that the probability of women

becoming entrepreneurs is dependent upon family constraints. This study therefore proposes that reform policies are considered as soft obstacles in comparison to social-cultural factors such as family support. This in turn means that if families perceive reform policies positively, these policies are more likely to filter through to actual changes of practice that would lead to an increase in the likelihood of women becoming entrepreneurs. Based on this argument, we thus hypothesise:

Hypothesis 3. *The perception of reform policies is mediated by family support.*

6.3 Methodology

6.3.1 Sample, Data Collection and Respondents

As mentioned above, the present chapter seeks to analyse the perceptions of Saudi women entrepreneurs in respect to a range of formal and informal institutions. For this purpose, in 2019, the study obtained a survey of female entrepreneurs based on Likert scale statements and standardised questions. The latent variables were measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Subjects of the questioners were divided into two parts: socio-economic questions and statements examining the perception of the institutional environment in respect to female entrepreneurship. A stratified sample technique was carried out to gain greater precision (Carter, Williams and Reynolds, 1997; Neyman, 1934). The technique is commonly used in the entrepreneurship field to select a specific group known as strata to improve precision (reduce error) relative to simple random sampling (Neyman, 1934). The paper followed a rule suggested by Austin and Steyerberg (2015) that sample size should be at least ten observations per variable. The items in the survey were established based on benchmarking to previous studies (Audretsch et al., 2011; Gnyawali and Fogel, 1994; Gupta et al., 2009; GEM, 2017), then adapted to fit the Saudi context. In all, 466 surveys were distributed, we were able to obtain 209 complete surveys for our analysis. A description of variables used in Table 6.1.

Since Saudi Arabia is an Arabic-speaking country, questions initiated in English were translated by four different experts in the entrepreneurship field who are bilingual to Arabic, then translated back to English, so as to ensure rich, reliable and valid questions and answers. This translation protocol followed Welsh et al. (2014).

Data collection involved two steps. First, the survey was sent online with the collaboration of different private and government institutions (University of Business and Technology, University of King Abdulaziz, Badir, WED, and the Small and Medium Enterprise General Authority (Monshaat). It was important to send a reminder email via these channels, with a total of three emails with weekly reminders. Second, entrepreneurial events were targeted, specifically two sponsored by the Chambers of Commerce: the Basta Market and Entrepreneurs' Forum. Targeting entrepreneurial events facilitated an increase in the number of responses since the main visitors to these events are attracted to entrepreneurship (Begley et al., 2005; Gupta et al., 2009).

6.3.2 Variables

The dependent variable was female entrepreneurs who were expecting to start a firm or who had started one within the preceding three and a half years. This measure helps to capture entrepreneurs in their early stage of entrepreneurial activity as this was one of the main objectives of the study. Furthermore, this is a well-known measure within GEM, namely 'TEA' Total Entrepreneurial Activity (Bosma, 2013), and it has commonly been used in previous studies of entrepreneurial activity (Noguera et al., 2013, 2015; Urbano et al., 2017; among others).

For explanatory variables, the study defined three main factors out of eight items by means of Likert scales (1 meaning strongly disagree to 5 meaning strongly agree). First, the study measured the perception of female entrepreneurs of reform policies (Faisal et al., 2017; Gnyawali and Fogel, 1994). The particular policies examined were being allowed to drive, travel and utilise online services (see Table 6.1). The perception of reform policies enables the study to understand the impact of changes, whether relational or prescriptive. Second, to measure the perception of female entrepreneurs to social image, the study included two statements on the perspective of entrepreneurs as having high social status and a distinguished career (Alvarez et al., 2011; Henrich and Gil-White, 2001). Third, the study measured female entrepreneurs' perceptions of family support through three statements (Davidsson and Honig 2003; Powell and Eddleston 2013; Welsh et al., 2016).

Consistent with existing research that applies empirical analysis (Arenius and Minniti, 2005; Minniti and Nardone, 2007), a number of socio-economic factors serve as control variables, specifically age, work status and higher education. Research has shown that individuals who are younger are more likely to engage in the early stages of entrepreneurial activity, and women are more likely to be involved in entrepreneurial activity at a later age than men (Collins-Dodd et al., 2004). In this study, women between the ages of 18 and 60 years old were surveyed. In respect to education, existing studies have found a positive link between education and the decision of self-employment (Robinson and Sexton, 1994). For this purpose, the study controlled for higher education by means of a dummy variable equal to one for females who had obtain secondary education and higher, and zero otherwise. Lastly, the effect of employment is notable for increasing women's attraction to entrepreneurial entry (Alsos et al., 2006). Again, a dummy variable of one was used if the respondents had either a full or part-time job, and zero otherwise (Aidis et al., 2008). All variables are summarised in Table 6.1.

Table 6. 1 Descriptive Statistic

Conditions	Variables	Variables description	Mean	SD	Min	Max
Dep. variable	Female entrepreneur	Whether expected to start a firm or started within three years and a half.	0.48	.50	0	1
Formal institutions						
Perceived reform policies	Driving	Allowing driving boosts and foster you to start and own your business	3.47	1.39	1	5
	Traveling	Allowing traveling helps and motivates you to start your own business.	3.11	1.42	1	5
	Online service	The new online services developed, so you do not need to go in person to different government agencies for government procedures to legalize your business.	3.38	1.30	1	5
Informal institutions						
Perceived social image	Status	The statues of being entrepreneurs motivate you to involve in entrepreneurial activity.	3.41	1.29	1	5
	High status	Being entrepreneur in society view is unique, distinguish, and a great career than other careers.	3.59	1.23	1	5
Family support	Family	I have received enough support from both male and female relative(s) to start my own business.	3.01	1.30	1	5
	Male support	Family relative(S) support motivates me to start my own business.	2.73	1.34	1	5
	Female support	Family relative(S) support helps me to start my own business.	2.91	1.33	1	5
Control variables	Age	The current age of the respondents.	32.19	8.81	18	60
	Work status	The respondents are asked to identify current status of employment.	0.60	.49	0	1
	Higher education	The respondents are asked to identify the highest educational obtained.	0.83	.37	0	1

6.3.3 Data Analysis

The study took a two-step approach to testing the proposed hypotheses. First, the study completed exploratory factor analysis (EFA) with individual perception variables as a means to relate and examine the reliability and validity of these different items. To ensure reliability, Cronbach's alpha test was applied (Hair et al., 2006). This test measures internal consistency, with values higher than seven being better. Thus, the results report that the three variables (reform policies, social image and family support) are equal and higher than the expected level. Also, the study utilised the Kaiser-Meyer-Olkin (KMO) to check if our dataset is appropriate for EFA. The result of the KMO test should exceed 0.5, and Bartlett's test of sphericity should reach statistical significance (Yong and Pearce, 2013). As Table 6.2 shows, Bartlett's test for

variables was statistically significant, and KMO exceeded 0.5. Furthermore, the study performed discriminant validity and reliability of the constructs tests (Fornell and Larcker, 1981). Table 6.2 shows that Average Variance Extracted (AVE ≥ 0.5) as well as reliability over all latent variables produced a good construct reliability (CR ≥ 0.70). The study therefore had a suitable dataset to proceed with EFA. The eight items loaded into three factors, as shown below in Table 6.2.

Second, the study performs Structural Equation Modelling (SEM) to measure the direct of reform policies and indirect effects of social image and family support. SEM was used for two reasons: i) it is suitable for testing the indirect effects, ii) the technique is becoming popular among scholars in the social sciences as a way to obtain a better understanding of complex relationships (Audretsch and Belitski, 2017; Tsai et al., 2016). The study determines the results by maximum likelihood estimation, and conducted a goodness of fit test to define how well the sample data represents the actual population (McDonald and Ho, 2002).

Table 6. 2 Factor Loadings (Pattern Matrix) and Unique Variances

Variable	1	2	3	Uniqueness
Reform policies				
RF1	0.43			0.82
RF1	0.42			0.81
RF1	-0.51			0.99
Social image				
PSI1		0.66		0.57
PSI2		0.66		0.57
Family support				
FS1			0.61	0.63
FS2			0.71	0.50
FS3			0.75	0.44
KMO	0.51	0.50	0.68	≥0.50
Bartlett test	17.26	76.20	169.116	***
Cronback's α	0.70	0.71	.77	≥0.70
CR	0.71	0.72	0.78	≥ 0.70
AVE	0.50	0.56	0.54	≥ 0.5

6.4 Results

Before examining the proposed hypotheses, the study performed summary statistics (see Table 6.1). These helped the researcher to understand the characteristics of the sample. Thus, the respondents were 48% entrepreneurs, 60% employees, whether full or part time, 83% were educated and they had mean average age of 32 years old.

Next, the research performed a pairwise correlation matrix to determine the correlation between variables, and to avoid any multicollinearity among independent variables. To check for this concern, the study applied VIFs (Variance Inflation Factors) tests (see Table 6.3). The results reported that there were

no issues with multicollinearity among the exploratory variables, and all VIFs reported far below the suggested value of 10 (Hair et al., 1998).

Based on the correlation matrix, female entrepreneurs have a significant correlation to social image, family support and work status. The findings show a positive correlation between female entrepreneurs and perceived social image, (209) = .17, p = < 0.05, and perceived family support, (209) = .23, p = < 0.01, and work status (209) = .19, p = < 0.01. Education and age showed no correlation to how reform policies were perceived by female entrepreneurs.

Table 6. 3 Pairwise Correlation Matrix

Variable	1	2	3	4	5	6	7	VIF
Female Entrepreneur	1							
Reform policies	0.02	1						1.20
Social Image	0.17**	0.39***	1					1.22
Family support	0.22***	0.13*	0.17**	1				1.06
Age	-0.03	-0.09	-0.11*	0.13*	1			1.06
Work status	0.19***	0.03	-0.03	-0.03	0.08	1		1.04
Higher education	-0.03	-0.08	-0.09	-0.03	0.09	0.19***	1	1.05

*** significant at p≤0.01; ** significant at p≤0.05; *significant at p≤0.10

The SEM is comprised of the main independent variable (perceived reform policies), two meditators perception of (social image and family support), dependent variable (female entrepreneurs) and control variables (age, work status, education). Figure 1 provides the results of SEM with variables used to establish the latent variable.

According to Hooper et al. (2008) and Kline (2005), there are various tests to check the goodness of fit of data collected for SEM. The primary four tests include, the model chi-square, which was suggested to be less than 3, Root Mean Square Error of Approximation (RMSEA) which should be less than 0.10, Comparative Fit Index (CFI) is suggested to be equal or greater than 0.9, and Standardised Root Mean Square Residual (SRMR) should be less than 0.08. The results were: Model Chi-Square (p > 0.111), RMSEA (0.057), CFI (0.925), and SRMR (0.038). Accordingly, the measurements indicate a good fit for the dataset and acceptance to proceed for analysis.

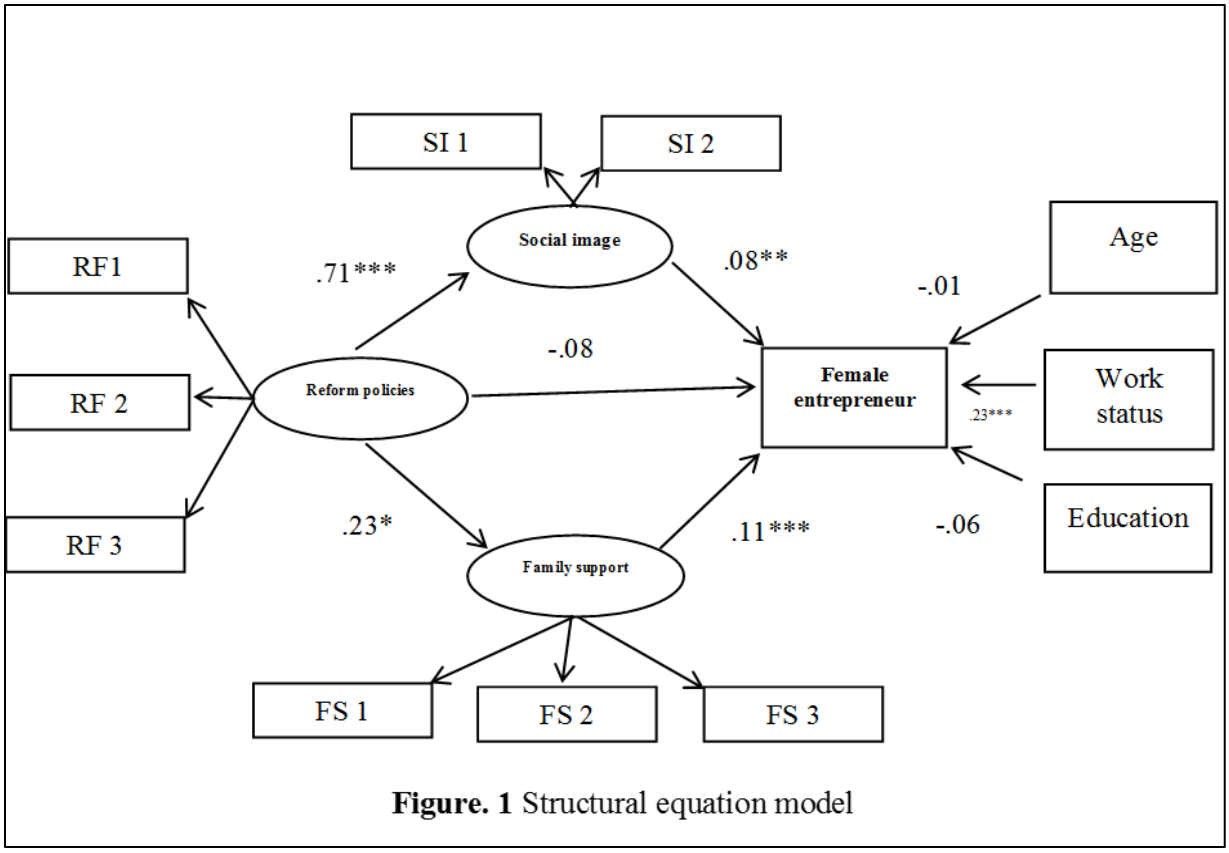

Figure. 1 Structural equation model

Figure 6.1 Figure Structural Equation Model

Thus, in Table 6.4, there are two models to test the proposed hypotheses, model one provides the results of the direct effects, and model two reports the total effects. The findings show that two of the three hypotheses report a significant result ($p < 0.10$). To begin with, the study hypothesised that the perception of reform policies is positively associated with female entrepreneurship (Hypothesis 1). The hypothesis is thus not supported (β= -.08; $p > 0.10$). While previous studies showed the importance of formal institutions for setting rules and policies to assist individuals toward entrepreneurial activity (Faisal et al., 2017; Gnyawali and Fogel, 1994), this study found that female perception of these reform policies is not significant, with an unexpected negative sign. These findings may indicate that, in the Saudi context, where entrepreneurship is an evolving concept, particularly among women, the benefits of these policies are still perceived negatively because it may not apply yet or are not yet fully understood. In contrast, however, the results showed that the perception of social image and female entrepreneurs is positive and significant ($p < 0.05$), and family support and female support is statistically significant and positive (β= 0.11; $p < 0.01$).

Further, the existing literature showed the importance of controlling for the socio-economic variables (age, work status and higher education) as they present a relationship to female entrepreneurship (Arenius and Minniti, 2005; Minniti and Nardone, 2007). The results show that in respect to employed females β =

0.23 and $p < 0.01$). This significant and positive coefficient indicates that female workers are more likely to be involved in entrepreneurial activity than those who are not employed (Alsos et al., 2006). On the other hand, the coefficients for age and higher education were negative and not significant ($p > .10$). The non-significant relationship might be caused by the different age categories at which females enter entrepreneurship (Collins-Dodd et al., 2004). Finally, higher education shows no discernible influence on female entrepreneurship. The existing study explains these non-significant relationships of education on the basis females may proceed to entrepreneurship at different stages of entrepreneurial activity (Van der Sluis et al., 2008).

Table 6. 4 Structural Equation Model Results, Dep. Variable: Female Entrepreneur

Variable	Model 1 (Direct effect)	Model 2 (Full model)
Formal institution		
Reform policies	- 0.08 (0.7)	0.005 (0.06)
Informal institutions		
Social image	0.08** (0.04)	0.08** (0.04)
Family support	0.11*** (0.03)	0.11*** (0.05)
Mediation effect		
Reform policies *via* social image		0.71*** (0.12)
Reform policies *via* family support		0.24* (0.13)
Control variables		
Age	- 0.01 (0.01)	- 0.01 (0.01)
Work status	0.23*** (0.07)	0.23*** (0.07)
Higher education	- 0.06 (0.9)	- 0.06 (0.9)
Number of obs.	209	209
Log likelihood	-	-1846.23
Chi2 test	-	77.43

Note: PRF perceived reform policies, PSI perceived social image, FS family support
Estimation method: maximum likelihood.
*** significant at p≤0.01; ** significant at p≤0.05; *significant at p≤0.10

Model 2 presents the total effects arising from all latent factors, control variables and the dependent variable. In terms of the mediation effect to female entrepreneurship, the study hypothesised that the perception of reform policies is mediated by a favourable social image, and the results showed that while perception of reform policies do not directly influence female entrepreneurship (β= -.08; $p > 0.10$) the latter is significantly influenced by social image (β= 0.71; $p < 0.01$). Hypothesis 2 is therefore supported and strongly significant. The results accordingly support the assumption stated earlier about the essential role of society in approving changes to rules or policies (Aidis et al., 2007; Welter and Smallbone, 2008). Therefore, it provides evidence that society's perception of the social image is essential in creating a favourable perception of new policies, and that this feeds through to positive perceptions of female entrepreneurs. Lastly, hypothesis 3 stated that the perception of reform policies is mediated by family support. Here, the findings show that while the perception of reform policies has no direct influence on female entrepreneurship (β= -.08; $p > 0.10$), the latter is significantly influenced by family support (β= 0.23;

$p < 0.10$). The result is parallel to the previous findings on the direct impact of family support (Davidsson and Honig 2003; Powell and Eddleston 2013; Welsh et al., 2016), and empirically observes that the negative perception of reform policies is positive through mediation of family support to estimate female entrepreneurs. Also, the study observed that the coefficients of all control variables remains constant.

6.5 Discussion

The objective of this chapter was to investigate how perception of reform policies affects female entrepreneurs, and how this effect can be mediated through informal institutional factors. Since there are an increasing number of studies into female entrepreneurship in the Western world, it is important to also understand the environmental factors affecting female entrepreneurship in non-Western and developing nations. Several studies have called for more contextualised and operationalised variables (Welter, 2011; Zahra, 2007), and the present study advances current knowledge of women in entrepreneurship within the Saudi context. The analysis confirms that perception of reform policies is mediated through the perception of social image and family support.

The entrepreneurial literature has generally highlighted the vital role of favourable policies to inspire more female entrepreneurs (Alsos et al., 2006; Iakovleva et al., 2013; among others). This study not only confirms this argument but also qualifies it by examining the roles of perceived social image and family support. First, the results note that a positive perception of reform policies increases the positivity of the social image attached to female entrepreneurs. This means that females are more likely to start a business if reform policies are perceived favourably within society. Second, the findings report that a positive perception of reform policies increases the positivity of the family support offered to female entrepreneurs. This result confirms our argument as to the essential role of families in female perceptions of reform policies. In other words, it indicates that families have more power over women in comparison to changes in the formal environment.

This work contributes to the existing applications of institutional economics theory (North, 1990), serving to confirm the interaction of informal institutional factors and formal institutions. Prior studies have shown the significant role of informal institutions in terms of subjective norms in increasing the probability of females becoming entrepreneurs (Alvarez et al., 2011; Noguera et al., 2013). Studies have noted how formal institutions underpin the extent of entrepreneurial opportunities, but that access to these opportunities is mediated through informal institutions (Aidis et al., 2007; Welter and Smallbone, 2008). Our results confirm that formal and informal institutions complement each other. Not only do formal institutions set boundaries and restraints for female entrepreneurs, but so do the informal institutions.

6.6 Conclusion

The purpose of this chapter was to use comprehensive analytical techniques to provide evidence for how female entrepreneurs perceived reforms in Saudi Arabia and how this effect can be mediated through

informal institutions. It further shows that the use of North's institutional economics theory as theoretical formwork (1990) allows nuanced understandings of these complex relations. In this study, this was demonstrated by showing how the perception of reform policies affects female entrepreneurs and how this effect can be mediated through family support and social image. The study explicitly assumed that the attributes of informal institutions have the primary role in affecting women's decisions regarding entrepreneurial activity, but the results showed that these reforms do not feed through positively to women until society also accepts these changes. These findings in respect to the mediating role of informal institutions allow a deeper understanding of the range of factors involved in woman's decisions about becoming an entrepreneur, at least within Saudi Arabia.

6.6.1 Implications

The current study started with the observation that although perception of reform policies is expected to be positive and to empower youth, specifically females (Vision, 2016), female entrepreneurs still have negative perceptions of these policies. This result is interesting and should warrant further discussion. Although previous studies have identified the importance of reducing government obstacles in the way of female entrepreneurial activity (Sadi and Al-Ghazali, 2010; Welsh et al., 2014), in the Saudi context, the results of this research show that even when implemented such reforms may not immediately be positively received by women in society. The findings of this study suggest that policymakers should not only change the laws and policies but should explain the purposes and implications for society. This may help to change early pessimism and establish a positive and strong link between government policies and female entrepreneurship.

Additionally, existing literature has shown the significant and positive influence of attempts by formal institutions to remove rules or policies that have gender bias, thus increasing the extent to which women are attracted to entrepreneurial activity (Gnyawali and Fogel, 1994). This research, however, shows that the perception of reform policies is negatively correlated with female entrepreneurship. One reason for this might be the influence of informal institutions in terms of norms of the society. In other words, informal institutions may lag behind and resist formal institutional changes, especially in conservative societies. Thus, while the study added informal institutional variables in terms of perception of social image, and family support, the results changed the negative perception of reform policies to be positive through perception of social image and family support. This demonstrates that when society and families have a positive perception of reforms in the formal environment for female entrepreneurs, they can positively reinforce the propensity to entrepreneurship. The research suggests that policymakers should invest further in ensuring that these reform policies are perceived favourably by women through publicity campaigns. Such campaigns should reach out to educate females about how these reform policies may help them gain faster access to the system and make navigating and traveling more convenient for them. This will in turn

embed a more favourable social image of entrepreneurship in society and amongst families, leading in turn to increased female involvement in entrepreneurial activity.

Finally, the study contributes to the theoretical literature by extending the understanding of the interactions between formal and informal institutions. The empirical evidence showed that these interactions follow a pattern whereby reform within formal institutions is only effective in practice if approved within informal institutions. Previous studies have also noted that changes in informal institutions take longer than changes in formal institutions (Williamson, 2009). This research supports this perspective by showing that formal institutions do not necessarily directly affect female entrepreneurs in the first instance, but they are indirectly affected through informal institutions. It can be concluded, therefore, that the effect of new policies depends significantly on the cultural values and societal perspectives.

6.6.2 Limitations and Future Directions

The present study is subject to several limitations for future studies to consider. The literature has noted the paucity of empirical evidence on female entrepreneurship in the Middle East region. More precisely, a lack of studies on environmental factors. The study suggests that future studies consider more studies within the Middle East on account of the distinct cultural practices in that region, recognising also that there can be significant differences from one area to another even within the region. Such research into environmental factors assists in understanding the different institutions that exist within the same and across nations.

While the study distributed the survey online, it was hard to follow with respondents at the first stage of conducting because most of the organisations in Saudi are limited in their database to only use it as well as data distribution, and the collection process is a new task for customer service in most cases. Therefore, this is limited to the study to follow with the respondents as the survey distribution was through different private and government organisations, which may cause a lower rate of response at the first steps that led us to target different events. Future studies in Saudi Arabia should find alternative ways to access female respondents perhaps by using trained research assistants to collect data.

In respect to the analysis, it is noted that the study considers two perception mediators that resonated with female entrepreneurs (social image and family support). This offers fruitful avenues for researchers who focus on female entrepreneurship. A promising research avenue is to examine the perception of reform policies that apply to both genders. Our model could be tested by adding a male sample so as to discover how the perception of reform policies regarding entrepreneurial activity can be mediated through informal institutions according to each gender. Second, there is a need for further studies with different indicators from the informal institutional environment so as to develop a wider view of how female entrepreneurs are influenced by the interactions between formal and informal environments.

Chapter 7

7 General Conclusions

As discussed above, female entrepreneurship has in recent years made remarkable contributions to economic and social transformation (Brush and Cooper, 2012; De Bruin et al., 2006) and this has been underpinned, in many parts of the world, by changes in institutional environments (Aidis et al., 2007, 2008; Noguera et al., 2013; Welter and Smallbone, 2008). Women are increasingly considered an untapped source of economic growth (Minniti and Naudé, 2010) and female entrepreneurship and participation in the job market is seen as offering opportunities to diversify problem-solving, strategic management and decision-making approaches (Rodríguez Gutiérrez et al., 2014). Furthermore, their entrepreneurial activity will significantly affect unemployment (Welter and Smallbone, 2008) and aid in supporting their families (Siba, 2016).

In that context, numerous studies have attempted to understand female entrepreneurship from a variety of disciplines, including psychological, sociological, economic, etc. Particularly, research has sought to identify the factors that play a pivotal role in determining the conditions that surround female entrepreneurship (see Appendix 2), including in terms of motivations (Cavada et al., 2017; Lee, 1996; Tlaiss, 2015; among others), challenges (Danish and Smith, 2012; Jennings and Brush, 2013; Zeidan and Bahrami, 2011; among others), and facilitation (Iakovleva et al., 2013; Powell and Eddleston, 2013; among others). One such theme has focused on the institutional environment as a critical element in determining women's inclination to entrepreneurship (Aidis et al., 2007, 2008; Noguera et al., 2013; Welter and Smallbone, 2008; among others). This presumes that institutional promotion of female entrepreneurs is a powerful way to extend the economic and social development of nations (Brush and Cooper, 2012; Welter and Smallbone, 2008).

In that context, the main objective of this thesis has been to explore the conditions for female entrepreneurs in Saudi Arabia in terms of the challenges faced, facilitation provided and the actors involved, in order to understand what, how and why Saudi female entrepreneurs' circumstances and factors differ from the Western nations. More precisely, this thesis has been concentrated on the particular objective of exploring what is known about female entrepreneurship conditions in emerging economies and how this works out in a specifically Saudi context. It achieved this by providing an empirical analysis of the conditions of female entrepreneurship in Saudi Arabia applying an entrepreneurial ecosystem approach, and then building a comprehensive and complex institutional economics view of the institutional factors influencing female entrepreneurship in a Saudi context. This entailed investigating the effect of formal and informal institutions, both on female entrepreneurs alone, and on both genders; analysing the impact of the perception of reform policies on women becoming entrepreneurs on the basis that such institutional reforms have shown in the literature to be a key factor affecting women's choice of entrepreneurship.

The novel contribution of this thesis to existing knowledge is in enhancing our understanding of female entrepreneurs' conditions in emerging economies through the literature review, and more precisely, at a national level in Saudi Arabia through empirical analysis. This research addressed in detail the situation of female entrepreneurs in Saudi Arabia by seeking the effect of different dimensions in terms of individual, organisational and environmental factors. Additionally, this study puts an increased focus on a deeper understanding of those institutional factors that existing literature has revealed as significant dimensions that need to be further analysed. This study, therefore, can establish a basis for future studies that focus on female entrepreneurs in the Gulf region and more particularly in countries like Saudi Arabia undergoing significant shifts in institutional policies. Unique factors for consideration in Saudi Arabia were also analysed; namely, the wider gender gap with distinct cultural practices from those of Western nations. This research has also sought to help policymakers to improve the situation of women in Saudi Arabia through offering an understanding of the biggest obstacles to them becoming entrepreneurs.

Moreover, this study is the first attempt to testing new factors affecting the attitude of females towards entrepreneurship in Saudi Arabia by building the factors first through secondary data from the Adult Population Survey conducted by Global Entrepreneurship Monitor (GEM, 2016) and then establishing a primary survey guided from secondary data to generate further questions to achieve the main objectives of the study. The study uses different techniques for its analysis; systematic literature review, binary logistic regression, exploratory factor analysis, and structural equation modelling. For the primary data, a stratified sample method ensures that all regions of Saudi Arabia were represented (Neyman, 1934). The sample consists of entrepreneurs from different areas, educational backgrounds, and work sectors, and thus the sampling method was designed to be representative of Saudi Arabia. Double Translation Protocol was adopted (Welsh et al., 2014).

The main findings of this study showed that female entrepreneurs who were in their early stage of entrepreneurial activity are characterised as mostly educated, aged around 35, have smaller families and had worked full or part-time, have a better chance of becoming entrepreneurs. However, achieving higher education has not much to do with their perception of becoming entrepreneurs. The results from primary and secondary data displayed internal and external liabilities encountered by female's perception of entrepreneurship. The most difficult liability was internally the fear of failure while externally it was the stereotyping and intervention policies. The prominent liability was the direct impact of reform policies. In other words, this means that formal institutions factors were not perceived as hard obstacles. Finally, the conclusions of each chapter are summarised below.

Chapter 2 built an understanding of this research topic by synthesising disparate strands of literature between 2008 and 2018. Additionally, this chapter analysed what the condition of female entrepreneurs in emerging economies is, and what scholars should focus on in their future studies. The analysis of this

chapter was based on a review of articles included in the Social Science Citation Index. The systematic analysis helped to present a detailed examination of female entrepreneurs in emerging economies, and various approaches were used, and disparate literature examined so as to identify gaps in the body of knowledge. The details of the literature are contained in Appendix 1. The findings of chapter 2 present the relevance of motivation, obstacles and actors to female entrepreneurs in emerging economies at different levels of analysis. It therefore opens the way to further investigation of the development of female entrepreneurship in the Gulf region in general. The literature review thus established a basis for this study to put an increased focus on female entrepreneurs' status within the context of Saudi Arabia in terms of giving an overview of their condition and how the institutional environment affects gendered enactments of entrepreneurship.

Chapter 3 sought to apply the lessons of scholarship on female entrepreneurship to the context of a country that relies heavily on natural resources, and still has a wider gender gap due to established cultural norms, so as to investigate the conditioning factors that affect women's ability and desire to become entrepreneurs. The study applied a quantitative method with secondary data from the Adult Population Survey conducted by Global Entrepreneurship Monitor (2016), and built upon the recently-proposed "Entrepreneurial Ecosystem Approach", which has three levels: institutional, organisational and individual. The results showed that the primary factors in the entrepreneurial ecosystem for women were a fast-growing emerging economy, significant reform in the institutional environment, an extremely collectivist society, and a non-European and non-North American context. The chapter therefore tested a framework that gives more insight into the diverse factors affecting female entrepreneurship at different levels, and helped to present the relationship of variables at the three dimensions so as to reveal how broader institutional conditions can help or hinder women from becoming entrepreneurs in relation to these variables. Thus, this study is among the first to capture the recent changes and provide the favourable conditions for Saudi female entrepreneurs. Based on the empirical evidence, major implications appear on policy makers, as they are urged to consider the multidimensional factors examined in this study in order to potentiate a favourable entrepreneurial ecosystem that will increase women's probability of becoming entrepreneurs.

Chapter 4 puts an increased focus on the influence of environmental factors on women becoming entrepreneurs in Saudi Arabia, using institutional economics as the theoretical framework for the development of the hypotheses. Primary data were collected and used to analyse the role that institutions play, and continue to exercise, in developing entrepreneurial activity among female citizens. Accordingly, a set of hypotheses was established and tested based on the binary logistic regression technique. The findings of this chapter indicate that the biggest barriers to involvement in entrepreneurial activities for Saudi women are a fear of failure and intervention policies, while their perception of existing female business owners and the support they receive from their families mediates their ability to become

entrepreneurs. In the process, the study thoroughly investigated female perceptions of unbanning driving, but showed no significant impact on this on their probability of become entrepreneurs, at least so far. Given that, this chapter adds to that scholarship by providing the first empirically based assessment of the impact of changes in formal and informal institutions on female entrepreneurship in Saudi Arabia.

Based on the results of the previous chapter, Chapter 5 examined the influence of institutional factors on entrepreneurial activity among men and women in Saudi Arabia in terms of formal and informal institutions. Primary data and binary logistic regression were used to measure the differences between the genders. The results revealed that women are less aware of government support and more likely than men to receive stereotyping. On the other hand, women benefit more from networking than men in becoming entrepreneurs. In short, the effect of informal institutional factors remains a more reliable predictor to drive woman's behaviour towards entrepreneurship than formal ones. There are many challenges faced by women who choose to become entrepreneurs. These challenges hinder females' involvement in entrepreneurial activity and are not limited to formal institutions, but also informal ones. The results of this chapter guided the study to a deeper understanding of why the recent changes in laws and policies intended to encourage more females towards business creation do not appear to have had a significant effect.

Finally, therefore, Chapter 6 focused on investigating how the perception of reform policies affects female entrepreneurs and how this effect can be mediated through family support and social image. Based on these objectives, and to understand this complicated relationship, the study applies exploratory factor analysis and structural equation modelling as techniques for analysis. The findings confirm that reform policies have no direct effect in influencing women to become entrepreneurs; however, women's perception of reform policies is fully mediated through social image and family support. The main theoretical conclusion of this chapter is that there is a possible interaction between formal and informal institutions, and this explains empirically how the perception of reform policies has no direct effect on influencing female entrepreneurs and how this effect is instead mediated indirectly through informal institutions such as family support and social image. Thus, the study explicitly assumed that the attributes of informal institutions have the primary role in affecting women's decisions regarding entrepreneurial activity, but the results showed that these reforms do not positively affect women until society also accepts these changes.

7.1 Implications

As mentioned earlier, the findings of this thesis have important implications for theoretical discussion and policymakers. The study contributes to theory development as it is essential to understand the effect of institutions on female entrepreneurial activity within a given environmental context. Alongside this, the study provides comprehensive recommendations for policymakers in the future in respect to establishing policies to increase female entrepreneurship. The theoretical and policy implications are summarised in the following sections.

Regarding the theoretical implications, this thesis in Chapter 3 sets out an understanding of the relationship between different dimensions and entrepreneurial activity, particularly among women. The entrepreneurial ecosystem approach has not gained much attention among authors in the entrepreneurship field (Audretsch and Belitski, 2017). This approach's main contribution, however, is that there are various elements that help to create an efficient environment for entrepreneurs across individual, organisational and environmental dimensions (Brush et al., 2019; Fetters et al., 2010; Isenberg, 2010). This theoretical framework has resulted in an increased focus on the entrepreneurship field, especially in terms of understanding gender (Brush et al., 2019). The authors have pointed out how a gendered approach to entrepreneurship requires exploration of different elements in the entrepreneurial ecosystem; for example, stereotypical gendered expectations for a specific industry to be male dominated have to be approached differently and more in-depth at the environmental level. In this sense, the advantages of using the Entrepreneurial Ecosystem approach is to determine the probability of entrepreneurship at different levels, to draw on the perception of the individual in order to promote entrepreneurial decision-makers, and to explain the use of different elements to influence entrepreneurial actions (Audretsch and Belitski, 2017).

A substantial additional implication of this research is the operationalisation of variables. In Chapters 4, 5 and 6, the study used primary data obtained through customised questions to fit the context of Saudi Arabia, given that Saudi Arabia has unique cultural practices resulting from its Islamic heritage and Arab civilisation (Badawi, 1995). For example, females interact more with other females in their social life; therefore, it is expected that women would be encouraged to become entrepreneurs by knowing another female entrepreneur. These kinds of characteristics are unique to Saudi Arabia; therefore, capturing these behaviours quantitively contributes to contextualisation studies in the field of entrepreneurship. The thesis therefore responds to Welter's (2011) and Zahra's (2007) call for more contextualised studies of entrepreneurship and the improved operationalisation of variables. These authors raise awareness of measurements to fit the context within the nation as the practice of each nation is different and cannot be straightforwardly generalised to others. This thesis's operationalisation of variables therefore suggests a future research basis in Saudi Arabia and Gulf region countries as they share many cultural similarities.

An important additional implication of this study is the development of questions that seek to capture the recent changes in formal institutions. This change is a part of the new programme to diversify the economic income and increase young people and women's interest in business creation (Vision, 2016). In Chapters 4 and 6, the study has used a new proxy to measure formal institutions specific to Saudi Arabia. This includes a permit to women for issuing a passport and travelling by themselves with no 'Wali,' gaining driver's licenses and navigating in the road with no restrictions, and doing most of the business licenses online with no need to be present at different government agencies (Vision, 2016). In this regard, this research offers new proxies that might be validated by future studies through different time frames.

The thesis also provides empirical evidence of the possible relationship and interaction between formal and informal institutional factors affecting female entrepreneurship in Saudi Arabia. While several research papers have recognised the effect of informal institutional factors on female entrepreneurs (Estrin and Mickiewicz, 2011; Noguera et al., 2013; among others), understanding the effect of formal institutions has remained inconsistent, especially within emerging economies (Puffer et al., 2010). As noted earlier, Williamson (2009) has explained formal institutions as encompassing central constraints and informal ones as encompassing the private realm. In light of that, the interaction between formal and informal institutions can be seen as playing out through formal institutions providing new regulations while these are approved, and thus given effect in practice, by informal institutions. Williamson (2009) also noted that the changes in informal institutions take longer than changes in formal institutions; a view seemingly confirmed by this research. While there is increasing attention and more consistent results on the impact of informal institutions on females becoming entrepreneurs (Contín-Pilart and Larraza-Kintana, 2015; Noguera et al., 2013; Shinnar et al., 2012; Welsh et al., 2014), this thesis contributes to this discussion by providing empirical evidence in Chapter 6 highlighting the interaction between formal and informal institutions. Based on the results of the thesis, it suggests that female entrepreneurs are not affected directly by the formal institutions as much as they are affected indirectly by informal institutions. Therefore, it might be possible to conclude that the effect of new policies significantly depends on the evolution of cultural values and societal perspectives.

In addition, an important implication of this research is related to the theoretical framework of institutional economic theory. The institution's theoretical perspective in entrepreneurship studies have further to add on (Elam and Terjesen, 2010). More commonly among studies, institutions have been split into two distinct groups, institutions as “the rule of the game” (North, 1990; 2005) or sociological as more to understand the cultural behaviours (W. R. Scott, 2014). In Chapter 4, 5 and 6 the study adopt explicitly institution economics as ‘the rules of the game in a society’ on relationship to female entrepreneurs, in turn, assuming this relationship is reflected in social and economic growth. North (1990; 2005) stated the importance of institutions for economic development while entrepreneurship was silent. Prior scholars have come with similar findings on the relationship between entrepreneurship and institutional environment (Alvarez et al., 2011; Noguera et al., 2013, 2015). In this sense, this thesis emphasises applying this theory as a theoretical framework to understand entrepreneurship, formal institution includes government policies, and informal institutions embrace the cultural norms and public perception toward business creation. Therefore, it suggests that institutional economics (North, 1990; 2005) is a framework to understand the effect of environmental conditions on female entrepreneurship.

In respect to policymakers, the research finds that obtaining the necessary skills and knowledge to start a business helps to increase opportunity recognition, confirming the capability of Saudi women to run

and manage small and medium-sized firms and their attraction to the service sector, and the fact that positive media and ease of starting a business all increasing the probability of women engaging in entrepreneurial activity. This has a number of implications for policymakers. First, policymakers should invest in developing the skills of women in society. This can be done by increasing training programmes from school to university level, which will help to improve women's confidence that they can participate in the workforce and indeed in entrepreneurship. Second, policymakers should structure new legislation in a way for it to be easier to start and manage a small business, since such policies should assist in increasing the number of women attracted to business creation. Third, policymakers should invest in positive social media content by shedding light on the stories of successful female entrepreneurs and on the women starting small businesses generally. Finally, policymakers should highlight through media the services offered by different government agencies and the simplification of the registration procedures for business creation.

Through the course of Chapters 4, 5 and 6, it was found that although the perception of reform policies was expected to be positive and to serve to empower young people, especially females (Vision, 2016), female entrepreneurs still had a negative perception of these policies. Elam and Terjesen (2010) and Faisal et al. (2017) identified the regulatory environment in the Gulf region as the biggest obstacle for females aiming towards business creation. Shinnar et al. (2012) suggested that the role of government support is to establish awareness for aspiring entrepreneurs, specifically women Sadi and Al-Ghazali, (2010) and Welsh et al. (2014) explain that government policies should give equal access to the system for both genders and that the government should reduce obstacles for women to so as to promote entrepreneurial activity. Based on this discussion, this thesis suggests that policymakers should raise awareness of the changes in the formal environment, especially how these affect women, and that they should initiate training and development programmes, prizes and awards for aspiring entrepreneurs. Further, the study suggests that policymakers should not only change the laws and policies but also communicate the implications for society. Such approaches may change the early pessimistic views and establish a positive and strong link between government policies and female entrepreneurs.

In addition, female entrepreneurs' likelihood of starting a business was found to be strongly affected by cultural norms (see Chapter 4, 5 and 6). Their consistent response to these subjective cultural norms such as the fear of failure, social image, networking etc. showed similarities to previous findings (Caliendo et al., 2009; Carter et al., 2003; Gupta et al., 2009; Noguera et al., 2013b; Shinnar et al., 2012; Van Praag, 2011; Wagner, 2007; among others). This study suggests that female entrepreneurs' subjective cultural norms affect their perception of business creation, which in turn affects the economic development of the country. Therefore, policymakers may consider several implications. First, it suggests that policymakers should provide training programmes, particularly on controlling risk and negative views of failure. Second, policymakers should provide a centre for individuals, particularly women, to exchange information in

collaboration with government representatives and agency services related to business venture establishment. Finally, the findings suggest that policymakers should develop a public campaign in different parts of the country. This public campaign should explain the value of female entrepreneurs to society and the economic development of the country; thereby creating the right image of entrepreneurship and the capabilities of women to manage their home and business.

7.2 Limitations and Future Research Directions

The present thesis is subject to several limitations for future studies to consider. Thus, the literature notes both the lack of empirical evidence in respect to female entrepreneurship in the Middle East region, and the lack of operationalisation of variables in the context of emerging economies. For example, the factors of developed nations will differ from those in emerging economics due to the difference in culture and different parameters used to measure success, as noted by a range of scholars in the area (Welter, 2011; Zahra, 2007). These weaknesses in the extant literature have made it difficult to compare the results of this thesis with other publications from the same nation; and comparing the findings with other contexts might result in misleading conclusions. Thus, the study suggests that future studies continue the trend to develop a more contextualised understanding of entrepreneurship in the Middle East.

Another limitation of this thesis is that there is no specific framework that has been used broadly to measure female entrepreneurship. Most of the papers selected in Chapter 2 lacked a theoretical framework to explain female entrepreneurs, as well as having weaknesses in their empirical findings. For example, some studies of the macro-environmental influences on female entrepreneurs tend to implicitly use theory, such as institutional theory, but fail to acknowledge or implement this fully and explicitly. This thesis therefore suggests that the implications of the theoretical framework should be clarified through explicit analysis to explain the female entrepreneurship phenomenon. Future studies should also develop solid empirical work to validate and give more reliability to their findings. This includes larger samples to and the use of advanced methodologies to explain complex relationship.

One of the major limitations of this thesis is the collection of primary data. While the study distributed a survey for the work in Chapters 4, 5 and 6, it was hard to follow up with respondents online because most of the organisations in Saudi Arabia are limited to only using their database for data distribution, and collecting data is a new task for customer services in most cases. In this sense, data collection was hampered because organisations and universities did not give direct access to send reminder emails to the target sample; therefore, the capturing of behaviour was limited to the number of respondents that completed the survey. This research suggests that future scholars that seek to understand female entrepreneurship in a similar nation should find alternatives ways to reach out and interact further with respondents such as hearing experts or trained research assistants to collect data that can reach more women. This might lead to a deeper understanding of the behaviours of individuals, particularly in a nation such as Saudi Arabia, where

there have been many changes in formal institutions, and where entrepreneurship is an evolving concept among women.

Further limitations derived from the data included the lack of a dataset regarding controlled variables. It was noted that the marital status and number of children are essential predictors to control, especially for women seeking self-employment (Parker, 2018; Van der Zwan, Verheul, and Thurik, 2012). For instance, through analysis, the control variable, such as employment status, showed a significant effect on women's entrepreneurial activity. In other words, women that have full or part-time jobs are more likely to start engaging in the workforce. Therefore, prior research found the vital influence of a husband on their wife in terms of the latter choosing to become self-employed (Caputo and Dolinsky, 1998). The number within the household is also essential while considering the family in the Middle East, specifically the Gulf Region. There are rather more children in the family on average that families in Western societies. Thus, limitations in the dataset used for this research should be addressed in future research. The implications of the influence of these two factors might further understanding of their effect on women becoming entrepreneurs in the Middle East and the Gulf region.

Additional limitations of this research include the fact that the study has focused on entrepreneurs in the early stage of entrepreneurial activities by applying GEM's Total Entrepreneurial Activity "TEA" indicator. On the one hand, using this indicator is appropriate to this study because entrepreneurship is an evolving concept in Saudi Arabia, and this indicator limits the data to entrepreneurs who are either in the process of starting a firm or who have managed one within the past three and a half years. On the other hand, this means that the results of this thesis are not generalisable to established entrepreneurs. While established entrepreneurs may face a similar situation with different institutions, future research should consider including established entrepreneurs and compare them with the early stage of entrepreneurs. Such research will help to establish a broader view on female entrepreneurship studies and identify other reasons behind the gender gap.

Another limitation of this thesis is related to the limitation of the country data in terms of only allowing access to data for a one-year time frame. Thus, in Chapter 3, the secondary data was only for 2016 and in Chapters 4, 5 and 6 the primary data was collected for only 2019. As noted earlier, the primary data allows this research to consider circumstances just after the changes in policies regarding driving or traveling, but it was unable to make a comparison with the previous situation due to the lack of previous evidence. Based on this limitation, it is suggested that future scholars use different indicators to examine formal institutional effects and that they focus on the implications of this change so as to develop a wider view of the perception of female entrepreneurs as to the formal environment.

Moreover, this study is limited to a single context, so it cannot be generalized to other nations. The different factors of this study were modified only to fit the Saudi context due to the complex cultural

environment of that country and so as to achieve the objectives of the study. There were new proxies that this thesis has developed in order to understand the new changes in the formal environment for increasing women's involvement in entrepreneurial activity specifically in Saudi Arabia. It would be valid to suggest, however, that make a comparison between different regions of Saudi Arabia, which would help to deepen the understanding of existence of similar issues across all regions in Saudi Arabia. In addition, future studies may consider women in other Gulf region countries, so as to understand the different factors that cause the gender gaps in entrepreneurial activity in the Gulf region.

Finally, this research is limited to providing an understanding of the perception of female entrepreneurship in the early stage of their entrepreneurship journey in different parts of Saudi Arabia. However, it can be beneficial for future scholars to extend our work by focusing on different types of female entrepreneurial activity; for example, social, academic, or rural. Further studies will also be vital for policymakers to understand economic development and social and cultural sustainability. First, a study of female entrepreneurs in rural areas will assist policymakers to understand the facilitation and challenges that are faced by entrepreneurs there. Rural locations of Saudi Arabia are mostly dominated by the main citizens of the country, so it would be important to see how "Vision2030" will impact females there toward entrepreneurship. Second, social and academic entrepreneurs will help policymakers and development of the country by generating jobs/income and creating businesses that will benefit the community as a whole. In addition, such studies will enhance our understandings of the different factors that influence female entrepreneurs economically and their contribution to the social and cultural sustainability.

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Appendix

Appendix 1. List of papers dealing with female entrepreneurship in emerging economies

Year	Author(s)	Journal	Title	Focus	Key findings
2015	Hayfaa Tlaiss	INT SMALL BUS J	Entrepreneurial motivations of women: Evidence from the United Arab Emirates	Environmental	Cultural and religious values have a stronger effect on entrepreneurial motivation, and females in the UAE and GCC have a distinguished context that reflect their characteristics.
2010	Al-Dajani & Marlow	INT SMALL BUS J	Impact of women's home-based enterprise on family dynamics: Evidence from Jordan	Environmental	While women prove the concept of creating a home business, they still face some cultural limitations in a patriarchal society.
2016	Welsh *et al.*	J BUS RES	Influence of stages of economic development on women entrepreneurs' startups	Environmental	There is a dependent relationship between female entrepreneurship and economic development across different nations.
2014	Welsh *et al.*	J BUS RES	Saudi women entrepreneurs: A growing economic segment	Environmental	Saudi women face several obstacles due to government and cultural restrictions; however, entrepreneurial initiatives are in increasing in Saudi Arabia amongst women.
2011	Alam *et al.*	IJEF	An Empirical Study of Success Factors of Women Entrepreneurs in Southern Region in Malaysia	Environmental	Family support, social ties, and internal motivation are significant influential factors to predict the success of female entrepreneurs.
2008	Aidis *et al.*	FEM ECON	Female entrepreneurship in transition economies: the case of Lithuania and Ukraine	Environmental	Institutions play a vital role in gender variation regarding entrepreneurial entry in transition economies.
2013	Karimi *et al.*	EJTD	Effects of role models and gender on students' entrepreneurial intentions	Environmental	Role models affect entrepreneurial intention indirectly.
2016	Seedhouse *et al.*	J TRANSP GEOGR	Potholes and pitfalls: The impact of rural transport on female entrepreneurs in Nigeria	Environmental	Women believe that when the transportation system is weak in the country, it is an obstacle for them toward entrepreneurial activities.
2016	Westhead & Solesvik	INT SMALL BUS J	Entrepreneurship education and entrepreneurial intention: Do female students benefit?	Individual	Entrepreneurial education students showed a higher drive for entrepreneurship than those who did not participate. While women show a lower drive to engage in entrepreneurial activities.
2011	Syed Ahmad	IJGE	Evidence of the characteristics of women entrepreneurs in the Kingdom of Saudi Arabia	Individual	The educational background of Saudi women determines their skills to begin entrepreneurial activities.
2009	Itani *et al.*	EDI	United Arab Emirates female entrepreneurs: motivations and frustrations	Individual	Society and tradition are amongst the most vital factors for women to begin entrepreneurial activities.
2009	Naser *et al.*	IJOA	Factors that affect women entrepreneurs: evidence from an emerging economy	Individual	Factors such as skills and knowledge are amongst the most critical factors to determine whether women choose to become entrepreneurs while social norms, market, network, and competition do not seem to be barriers for women in becoming entrepreneurs.

Year	Author(s)	Journal	Title	Focus	Key findings
2011	Bardasi *et al.*	Small Bus Econ	How do female entrepreneurs perform? Evidence from three developing regions	Organizational	Gender equality has a significant relationship to a gender gap in men and women self-employment choices; therefore, this relationship is related to the country development stage and industries.
2014	Gutiérrez *et al.*	J SMALL BUS MANAGE	Strategic Capabilities and Performance in Women-Owned Businesses in Mexico	Organizational	The study focuses on several factors hinder women in GCC countries to become entrepreneurs.
2016	Lee *et al.*	J INT MANAG	Does Gender Matter in the Export Performance of Firm-specific and Country-specific Advantages International New Ventures? Mediation Effects of Firm-specific and Country-specific Advantages	Organizational	Men and women differ in the size of firms they own and run, so gender gaps exist.
2017	Mehtap *et al.*	IJEBR	Entrepreneurial intentions of young women in the Arab world	Multilevel	Entrepreneurial orientation in terms of market and learning orientation has a strong effect on female performance in Mexico.
2017	Cavada *et al.*	EBER	Motivation Factors for Female Entrepreneurship in Mexico	Multilevel	Female firm owners achieve lower export performance in comparison to males.
2013	Iakovleva *et al.*	JSBED	Financial availability and government support for women entrepreneurs in transitional economies	Multilevel	The weak education system and cultural barriers are the main factors that hinder women from become entrepreneurs in Jordan.
2015	Ramadani *et al.*	WJEMSD	Female entrepreneurs in transition economies: insights from Albania, Macedonia and Kosovo	Multilevel	Various factors are associated with women becoming entrepreneurs, which are not just limited to personal threats but more to the social and economic environment as well.
2017	Welsh et al.	INT ENTREP MANAG J	The influence of perceived management skill and perceived gender discrimination in launch decisions by women entrepreneurs	Multilevel	The changing environment in Russia and Ukraine have led many women to adjust to these changes in a more positive way, engorging them to entrepreneurial activity.
2016	Tasi *et al.*	INT ENTREP MANAG J	Refining the linkage between perceived capability and entrepreneurial intention: roles of perceived opportunity, fear of failure, and gender	Multilevel	The freedom of having a choice is amongst the most essential factors to determine whether women choose to become entrepreneurs.
2012	Klyver *et al.*	J BUS VENTURING	Women's self-employment: An act of institutional (dis)integration? A multilevel, cross-country study	Multilevel	Women in Morocco are more likely to start a business with a family member if they are perceived as having high management capabilities while gender discrimination impacts women negatively.
2017	Nishat Faisal *et al.*	JEEE	Strategic interventions to improve women entrepreneurship in GCC countries	Multilevel	Men have perceived capability indirectly to affect their entrepreneurial intention via perceived opportunity while women do not in Taiwan; however, there are no differences between men and women in Chinese samples.

Appendix 2. List of reviewed papers dealing with gender, female, and entrepreneurship

Year	Author(s)	Title	Theoretical framework	Type of papers	Key findings
2007	Aidis et al.	Female entrepreneurship in transition economies: the case of Lithuania and Ukraine	Institutional approach	Theoretical	Women entrepreneurs in Lithuania and Ukraine share many common features and problems; however, there are important differences in the experiences of women in these two countries.
2008	Al-Khateeb	Women, Family and the Discovery of Oil in Saudi Arabia	Discussion based on the Saudi culture attitude	Empirical	The Saudi family is a male-dominated institution with the important decisions still being made by men.
2017	Alotaibi et al.	A critical analysis of the literature in women's leadership in Saudi Arabia	Discussion on the development of women and self-employment	Theoretical	women presented as leaders in the social, political and economic spheres
2006	Alsos et al.	New venture financing and subsequent business growth in men–and women–led businesses	Development Framework	Empirical	The lower levels of financial capital that women business founders achieve are associated with lower early business growth compared with their male counterparts.
2011	Alvarez et al.	Environmental conditions and entrepreneurial activity: a regional comparison in Spain	Institutional economics	Empirical	Informal institutions factors are more determinant than the formal to influence entrepreneurs
1995	Badawi	Gender Equity in Islam		Special issue	Discover the gender equality in Islamic context
2001	Baron et al.	Perceptions of women and men as entrepreneurs: evidence for differential effects of attributional augmenting.	Raters, Stimulus Materials, and Design	Empirical	As predicted, raters assigned significantly higher scores to women, but not to men, when they were described as entrepreneurs
2002	Bird & Brush	A gendered perspective on organizational creation	Build on multiple theoretical perspective	Theoretical	Advances new concepts of gender-maturity (an individual difference) and gender-balance (an organizational quality).
2019	Brush et al.	A gendered look at entrepreneurship ecosystems	Entrepreneurial ecosystem	Theoretical	The paper provide overview of current ecosystem frameworks pointing out where “gender” matters in ecosystems
2012	Brush & Cooper	Female entrepreneurship and economic development: An international perspective		Special issue	The understanding the process, challenges and unique aspects of women’s entrepreneurship
2017	Bullough et al.	Women's business ownership: Operating within the context of institutional and in-group collectivism	Institutional approach	Empirical	collectivism at the in-group level in terms of family and friends is important predictor of women's business ownership
1998	Caputo & Dolinsky	Women's choice to pursue self-employment: The role of financial and human capital of household members	Human capital	Empirical	Husband's business knowledge and experience, as proxied by whether he was self-employed—the presence of a self-employed husband dramatically increased the likelihood of a woman being self-employed.
2003	Carter et al.	Women entrepreneurs who break through to equity financing: the influence of human, social and financial capital	Development framework	Empirical	Female obtained higher levels of education may increase their likelihood of obtaining funding
2003	Carter & Williams	The case of new firm growth	Feminist theory	Empirical	Women owned business followed differention strategy and women gain lower sales in their first year of business

Year	Author(s)	Title	Theoretical framework	Type of papers	Key findings
1997	Carter et al.	Discontinuance among new firms in retail: The influence of initial resources, strategy, and gender	Development framework	Empirical	Women owners can use founding strategy to decrease the odds of discontinuing business.
2001	Carter et al.	Women's business ownership: a review of the academic, popular and internet literature	Systematic review	Theoretical	Review on females business owners and their characteristics and challenges
2013	Chappel & Waylen	Gender and the hidden life of institutions	Institutional approach	Theoretical	Influence of gender norms and practices on the operation and interaction between formal and informal institutions.
2004	Collins-Dodd et al.	Further evidence on the role of gender in financial performance	Discussion based on seeking different gender financial performance	Empirical	Women with a stronger motivation to establish a public practice to balance work and family experienced more positive financial outcomes, while for men the same motivation reduced financial performance.
2012	Danish & Smith	Female entrepreneurship in Saudi Arabia: opportunities and challenges	5M framework	Empirical	Female entrepreneurs in Saudi Arabia are now establishing and managing more small and medium sized entities than at any time in the past and this trend is growing. This is in spite of significant challenges, both societal and institutional.
2006	Bruin et al.	Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship		Special issue	Women's entrepreneurship research is at the early childhood stage.
2014	De Vita et al.	Women entrepreneurs in and from developing countries: Evidences from the literature	Systematic review	Theoretical	Over the years, attention has been mainly devoted to the analysis of women entrepreneurs' characteristics in developed countries
2007	Delmar & Davidsson	The role of gender in opportunity identification	Social feminism theory	Empirical	Women and men utilize different processes to identify opportunities, neither process is inherently superior.
2018	Dilli & Westerhuis	How institutions and gender differences in education shape entrepreneurial activity: a cross-national perspective	Institutional approach	Empirical	individual-level explanations including education account for the gender differences during all three stages of early-stage entrepreneurial activity
2008	Eddleston & Powell	The role of gender identity in explaining sex differences in business owners' career satisfier preferences	Career satisfier preferences	Empirical	Gender identity, represented by the dimensions of masculinity and femininity, serves as a cognitive mechanism that contributes to sex differences in business owners' career satisfier preferences
2012	Eddleston & Powell	Nurturing entrepreneurs' work–family balance: A gendered perspective	Feminist theory	Empirical	Female entrepreneurs tend to nurture satisfaction with work–family balance by creating work–family synergies, whereas male entrepreneurs tend to nurture satisfaction with work–family balance by obtaining family support at home.

Year	Author(s)	Title	Theoretical framework	Type of papers	Key findings
2011	Estrin & Mickiewicz	Institutions and female entrepreneurship	Institutional approach	Empirical	Restrictions on freedom of movement away from home, make it less likely for women to have high entrepreneurial aspirations in terms of employment growth
2010	Gallant et al.	Outlook of female students towards entrepreneurship	Discussion on education and entrepreneurs among students	Empirical	The results show that the young female students in Dubai are positive regarding the role that universities can play in fostering their interest towards entrepreneurship, both for their education and the incubator for their new venture.
2014	Gupta et al.	Gender differences in evaluation of new business opportunity: A stereotype threat perspective	Human behavior	Empirical	Gender differences in opportunity evaluation were exacerbated when entrepreneurship was linked to masculine stereotypical information, and reversed in favour of women when entrepreneurship was linked to feminine stereotypical information.
2009	Gupta et al.	The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur	Discussion on gender stereotypes	Empirical	Men and women did not differ in their entrepreneurial intentions, those who perceived themselves as more similar to males
2012	Hattab	Towards understanding female entrepreneurship in Middle Eastern and North African countries	Systematic review	Theoretical	More women are turning into entrepreneurship in Middle East; however, their percentage is still low compared to their male counterparts.
2013	Jennings & Brush	Research on women entrepreneurs: challenges to (and from) the broader entrepreneurship literature?	Systematic review	Theoretical	literature review concern women challenges, the broader entrepreneurship literature and development of women entrepreneurship research
1998	Kourilsky & Walstad	Entrepreneurship and female youth: Knowledge, attitudes, gender differences, and educational practices	learning theory	Empirical	Females are more aware of their deficiencies in this knowledge area than are their male counterparts. Therefore, the improve of the entrepreneurship education among youth is needed
2007	Langowitz & Minniti	The entrepreneurial propensity of women	Behavioural economics approach	Empirical	Women tend to perceive themselves and the entrepreneurial environment in a less favorable light than men
2005	Mathur-Helm	Equal opportunity and affirmative action for South African women: a benefit or barrier?	A descriptive	Theoretical	Reaching top level positions is still uncommon for South Africa's women
2010	Maclntosh	Beyond the veil: The influence of Islam on female entrepreneurship in a conservative Muslim context	Human capital	Empirical	Human capital is instrumental in respondent's choice of business, type of financing sought, and level of networking.
2007	Minniti & Nardone	Being in someone else's shoes: the role of gender in nascent entrepreneurship	Discussion on personal characteristics of the individual and economic environment variables	Empirical	The choices of men and women put in identical economic environments and socio-economic circumstances.
2010	Minniti & Naude	What do we know about the patterns and determinants of female entrepreneurship across countries?		Special issue	To understand motivation and constraints women entrepreneurs faced in developing countries
2015	Naguib & Jamali	Female entrepreneurship in the UAE: a multi-level integrative lens	Development framework	Theoretical	The importance of the institutional and social contexts in shaping the situational opportunities and constraints that affect female entrepreneurship and its complex expressions in a particular society

Year	Author(s)	Title	Theoretical framework	Type of papers	Key findings
2013	Noguera et al.	Socio-cultural factors and female entrepreneurship	Institutional economics	Empirical	Both Fear of failure ‘and 'perceived capabilities' are the most important socio-cultural factors on the probability of becoming a woman entrepreneur.
2017	Nsengimana et al.	The Sustainability of Businesses in Kigali, Rwanda: An Analysis of the Barriers Faced by Women Entrepreneurs	Schumpeter’s theory	Empirical	women entrepreneurs faced the lack of collateral to obtain loans, high taxes, a lack of information technology skills and access, high interest rates, high transport costs, a lack of entrepreneurial skills, cultural and psychological factors are the hardest issues
2020	Rocha & Van Praag	Mind the gap: The role of gender in entrepreneurial career choice and social influence by founders	Social identification theory	Empirical	Founders have a strong influence on a joiner's entrepreneurial career choice if both are female
2010	Sadi & Al-Ghazali	Doing business with impudence: A focus on women entrepreneurship in Saudi Arabia	Systematic review	Theoretical	Assessing the traditional restrictions towards women in Saudi Arabian society.
1990	Sexton & Bowman-Upton	Female and male entrepreneurs: Psychological characteristics and their role in gender-related discrimination	Psychological traits of growth oriented	Theoretical	Psychological propensities of female and male entrepreneurs are more similar than they are different
2012	Shinnar et al.	Entrepreneurial perceptions and intentions: The role of gender and culture	Hofstede's cultural dimensions framework and gender role theory	Empirical	Significant gender differences in barrier perceptions.
2010	Terjesen & Amorós	Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development	Systematic review	Theoretical	The study comment on the impact of female entrepreneurship on economic development
2014	Urbano et al.	Female social entrepreneurship and socio-cultural context: an international analysis	Institutional economics	Empirical	Altruistic attitudes and being a member of a social organization are the most relevant socio-cultural factors for social female entrepreneurship.
2012	Zwan et al.	The entrepreneurial ladder, gender, and regional development	How environment may explain the backward position of women regarding their involvement at different stages of the entrepreneurial process.	Empirical	Cross-country gender differences are largest in the first and final transitions of the entrepreneurial process.
2005	Verheul et al.	Business accomplishments, gender and entrepreneurial self-image	Bem's psychological theory of self-perception	Empirical	Experience as a small business person (founding, running, and/or owning a small business) most clearly predicts entrepreneurial self-image.
2007	Wagner	What a difference a Y makes-female and male nascent entrepreneurs in Germany	Empirical model for the decision to become self-employed	Empirical	Difference between men and women in both the extent and the effect of considering fear of failure to be a reason not to start one’s own business is important for the explanation of the gap in entrepreneurship by sex.

Year	Author(s)	Title	Theoretical framework	Type of papers	Key findings
2008	Welter & Smallbone	Women's entrepreneurship from an institutional perspective: the case of Uzbekistan	Institutional approach	Empirical	Informal institutions dominating Uzbek society contribute to the prevailing forms of female entrepreneurship.
2010	Yordanova & Tarrazon	Gender differences in entrepreneurial intentions: evidence from Bulgaria	Development framework	Theoretical	Women have lower entrepreneurial intentions than men. The gender effect on entrepreneurial intentions is fully mediated by perceived behavioural control and partially mediated by perceived subjective norms and attitudes toward entrepreneurship
2013	Zeffane	Gender and youth entrepreneurial potential: Evidence from the United Arab Emirates	understand the attitude through Entrepreneurial potential	Empirical	Statistical analysis strongly revealed that there were no differences on the overall entrepreneurial potentials between males and females Emirates.
2011	Zeidan & Bahrami	Women entrepreneurship in GCC: A framework to address challenges and promote participation in a regional context	Development framework	Theoretical	looks at the relationships between factors that motivate entrepreneurship activities and entrepreneurial challenges among women entrepreneurs in GCC countries.
2015	Noguera et al.	Determinants of female entrepreneurship in Spain: an institutional approach	Institutional economics	Empirical	Informal factors (recognition of entrepreneurial career and female networks) are more relevant for female entrepreneurship than formal factors (education, family context and differential of income level).
2020	Gimenez-Jimenez et al.	The neglected role of formal and informal institutions in women's entrepreneurship: a multi-level analysis	Institutional approach	Empirical	Societies characterized by high masculinity and/or low individualism strengthen the relationship between the public expenditure on childcare and the likelihood for women to become entrepreneurs.