

The propensity to business startup

Evidence from Global Entrepreneurship Monitor (GEM) data in Saudi Arabia

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Abstract

Purpose – The purpose of this study is to assess the determining factors of entrepreneurial business startup in Saudi Arabia from an eclectic perspective.

Design/methodology/approach – Based on Global Entrepreneurship Monitor data of 2000 Saudi Arabian respondents, the study analyzes a multitude of individual factors which are classified into four groups: financial resources; social legitimacy; entrepreneurial personality; and entrepreneurial competencies. Gender and education are moderating variables influencing the relationship, whereas age is a control variable using binary logistic regression technique.

Findings – Out of ten hypotheses, only four hypotheses, namely, income, fear of failure, perception of high status and knowledge of other entrepreneurs, have a significant relationship with the possibility of a business startup.

Originality/value – Implications of these findings and directions for future research are discussed.

Keywords Entrepreneurialism, Global Entrepreneurship Monitor (GEM), Entrepreneurship, Kingdom of Saudi Arabia, Regression model

Paper type Research paper

Introduction

The impact of entrepreneurship on wealth creation, employment opportunities and economic growth have been confirmed by an increasing number of researchers in recent years (Carree and Thurik 2003; Acs *et al.*, 2008; Ahmad and Xavier, 2012; Xavier *et al.*, 2013). The practice of entrepreneurship emerges from the formation of entrepreneurial opportunities and the realization of entrepreneurial capacities, which lead to new business creation. Although copious amounts have been written theoretically and descriptively on how entrepreneurship affects the economy, there is dearth of empirical evidence that analyses the determinants of firm creation in developing countries. This is a significant gap as entrepreneurial intentions differ between developing and developed



countries (Iakovleva *et al.*, 2011). With the exceptions of few studies that focused on the Middle East (Ahmad, 2011), most studies examining the individual's perceptions of entrepreneurship have focused on the developed countries of Western markets [Krueger *et al.*, 2000 (USA); Guerrero *et al.*, 2008 (Spain); Koh, 1995 (Hong Kong); Tan *et al.*, 1996 (Singapore); Audretsch, 2002 (Canada); Crant, 1996 (USA); Kolvereid, 1996 (Norway); Tkachev and Kolvereid, 1999 (Russia); Veciana *et al.*, 2005 (Puerto Rico and Catalonia)]. Thomas and Mueller (2000) argue that the study of entrepreneurship should be expanded to international markets to investigate the conditions and characteristics that encourage entrepreneurial activities in various countries and regions. Understanding of entrepreneurship development in developing countries would allow policy makers to use this knowledge to formulate policies that are tailor-made for the development of the nations of developing economies.

Saudi Arabia context

Saudi Arabia is among those developing countries that have a fast-growing economy. It is one of the world's 25 largest economies and the largest economy in the Middle East and North Africa (MENA) region with per-capita income forecast to rise from US\$25,000 in 2012 to US\$33,500 by 2020. Saudi Arabia remains an economy driven by extractive activity though efforts at diversification have created greater a higher growth rate in non-oil industries over the past few years. While figures vary from year to year, somewhere close to 50 per cent of GDP is driven by the oil industry with almost 90 per cent of government revenues and exports coming from the same industry (Oxford Business Group, 2007, 2015).

From an entrepreneurial perspective, the country ranks 13th out of 183 economies in "ease of starting a business" according to World Bank's Doing Business 2010 data. Based on 2013 data, the Kingdom ranks second to the United Arab Emirates in ease of doing business within the MENA. Thus, it is reasonable to infer that entrepreneurship enjoys a high level of support in Saudi Arabia. Initiatives such as the Saudi Arabian National Entrepreneurship Center (NEC), an institution created to empower the young to be successful entrepreneurs, help to promote entrepreneurship within the country.

Despite the recognition and emphasis on entrepreneurship in the country, few studies have been done focusing on entrepreneurship within the Kingdom. The NEC did commission a Global Entrepreneurship Monitor (GEM) study in cooperation with the Centennial Fund and Alfaisal University in 2009 to explore entrepreneurship activities in Saudi Arabia. The GEM database has been increasingly utilized in academic research (Bergmann *et al.*, 2014; Ramos-Rodriguez *et al.*, 2015). Apart from that recent studies have paid particular attention to female entrepreneurs finding that they are starting business at a higher rate than in the past and seem to do so with greater confidence and support from family members while continuing to face many challenges in access to financing, male-oriented social norms and a lack of training and mentoring (Danish and Smith, 2012; Ahmad, 2011). Another group of entrepreneurs receiving some attention has been scientists engaged in entrepreneurial activity with research finding that younger scientists with greater human capital are initiating new businesses at higher rates than their older colleagues with less human capital (Alshumaimri *et al.*, 2012). Other studies focus on the role of Islam in entrepreneurial activities (Kayed and Hassan, 2010) and testing the market orientation-performance link within the Saudi context (Bhuiyan and Habib, 2004).

Overall, however, there continues to be a relative dearth of research on the factors that influence new business startups among adults in Saudi Arabia. This study hence seeks to address that gap.

The objective of the current paper is to study the factors that influence individuals to take decisions to become entrepreneurs. In other words, the paper aims to explore and explain individuals' propensity to create a business startup. In the GEM data collection, this is defined as a "nascent entrepreneur". The triggers of the propensity to start a business venture cannot, however, be studied using only objective variables (age, gender, income, etc.). Other, more subjective, influences play a role in this process such as individual motivations and perceptions of the cultural, political, demographic and environment (Audretsch, 2002). Therefore, individual personality and competencies cannot be isolated and thus this study adds individuals' attitudes, perceptions, competencies and personal attributes to the analysis. This approach is consistent with studies done by previous scholars (Arenius and Minniti, 2005; Camelo-Ordaz *et al.*, 2016) who combine demographic with perceptual variables related to the entrepreneur. The entrepreneurial perception variables which reflect the entrepreneurial personality and competencies are adapted from the work of Tsai *et al.* (2016).

The paper is structured as follows: the next section describes the theoretical framework for this study and formulates various hypotheses regarding the decision to become an entrepreneur. Thereafter, the methodology used in the study is outlined. The subsequent section provides results and a discussion of the research. The paper ends by stating a number of conclusions and recommendations for practice and future study.

Theoretical background and hypotheses

The diversity of disciplines studying the determinants for the business startup phenomenon (economics, business management, sociology, psychology, etc.) and the large number of paradigms adopted, indicate that consensus has not arisen. All suffer from some limitations. This means that the phenomenon should be studied from an eclectic perspective because the emergence of entrepreneurship is too complex an event to be explained by a single perspective of analysis, whether economic, social or institutional. Thus, the current work combines various theoretical perspectives, considering their numerous dimensions to explain the determinants of individuals' propensity to start up a business venture. In this way, this theoretical framework has attempted to overcome some limitations observed in certain entrepreneurial models that offered a partial view of the process of business creation. The independent variables examined in this study for their effect on the decision to start a new business are classified into four groups:

- (1) financial resources;
- (2) social legitimacy;
- (3) entrepreneurial personality; and
- (4) entrepreneurial competencies.

Gender and education are moderating variables influencing the relationship, whereas age is a control variable.

Financial resources

Previous studies have indicated that the main source of startup financing is the personal savings of the business's founder (Bygrave, 2003). This highlights that entrepreneurs do not wish to commit themselves with financial obligation by borrowing from the bank (Kim *et al.*, 2006). Consequently, the source of the business capital would come from family and friends apart from the personal savings accumulated from current or previous employment. In this

study, financial resources comprise household income and work status. The two factors contributed toward the source of startup financing.

Household income. According to a household portfolio theory, some of the most important determinants of household investments in risky assets are household financial wealth and income (Gollier, 2002; Guiso *et al.*, 2003). The probability of individuals becoming entrepreneurs is found to be positively associated with their personal net wealth and secure household income (Evans and Leighton, 1989). Personal net wealth and household income may facilitate the transition to entrepreneurship because individuals possessing wealth – personal or family wealth and income – do not necessary need to get funding from banks or other agencies and can self-finance the startup process (Kim *et al.*, 2006). High income levels allow individuals to distribute their wealth in a wider range of investments, including riskier ones (Maula *et al.*, 2005). In line with these arguments, investing a part of the household income in a business startup is a risky investment, so this study will test the following hypothesis:

- H1. The higher the household income made by individuals, the higher the propensity for business startup in Saudi Arabia.

Working status. From a demographic perspective, researchers have generally argued that individuals who are employed are more likely to establish a business venture than unemployed individuals (Arenius and Minniti, 2005). This can be a result of both having the expertise and financing to launch a new venture. Another form of entrepreneurship – necessity-based entrepreneurship, results from individuals starting business as other employment opportunities are either absent or unsatisfactory (Reynolds *et al.*, 2003). Global assessments indicate that two-thirds of entrepreneurs self-classify as opportunity motivated, whereas one-third self-classify as necessity motivated (Reynolds *et al.*, 2002). To date, Saudi Arabia has not necessarily had a large group of citizens who have lacked basic necessities due to a generous distribution of oil revenues to meet basic shelter, food, education and health-care needs. In view of this state of affairs, it is proposed that the skill sets developed and income earned in employment allow the employed to both identify and take advantage of entrepreneurial opportunities at a higher rate than their unemployed colleagues. The following hypothesis is therefore proposed:

- H2. Current employment is positively related to the propensity for business startup in Saudi Arabia.

Social legitimacy

Legitimacy is “a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions” (Suchman, 1995, p. 574). Establishing entrepreneurial legitimacy is argued as mainly a process of gaining legitimacy, as an individual is faced with promoting new activities to gain validity as an entrepreneur. The theory of planned behavior (Ajzen, 1991) argues that a favorable or unfavorable attitude toward a particular behavior is influenced by social norms that either encourage or discourage the behavior. This is even more likely to be the case in a collectivistic culture such as Saudi Arabia (Markus and Kitayama, 2003; Oyserman and Lee, 2008). In other words, the expectation of their close circles and the motivation to comply with such expectations is stronger in the collective society and influence their intention to become an entrepreneur (Ahmad *et al.*, 2014; Begley and Tan, 2001). Such factors include whether the individual perceives that being an entrepreneur is an attractive profession and whether the individual perceives that people

think successful entrepreneurs have a high social status and prestige. Again, as this is a perceptual variable, one would expect the relationship to hold despite varying social perceptions across countries. In summary, the following hypotheses are proposed:

- H3. The perception that society regards being an entrepreneur as an attractive profession is positively related to the propensity to business startup in Saudi Arabia.
- H4. In Saudi Arabia, the perception that successful entrepreneurs gain high social status and prestige is positively related to the propensity for business startup.

Entrepreneurial personality

Examining individual perceptions of entrepreneurship like perceived fear of failure and knowledge of other entrepreneurs or role model is important because these factors has a significant influence toward the intention to start a business. Fear of failure, for instance, has a strong negative relationship with entrepreneurial entry (Arenius and Minniti, 2005; Stuetzer *et al.*, 2014). Meanwhile, contacts to entrepreneurs may reduce information ambiguity attached to entrepreneurship and heighten the interest among non-entrepreneurs (Wyrwich *et al.*, 2016). Several studies have found that role models influence entrepreneurs in their decisions of becoming an entrepreneur (Arenius and Minniti, 2005). In addition, by knowing and observing successful entrepreneurs, it helps entrepreneurs to sort out the resources and activities needed for starting the business and at the same time boost individual self-confidence (Sorenson and Audia, 2000). As such, Baron (2000) argued that role models have the ability to induce entrepreneurial competencies or self-efficacy. In this study, entrepreneurial personality comprises of fear of failure and knowledge of other entrepreneurs.

Fear of failure. The theory of planned behavior holds that individuals' fear of failure leads to the perception that they are unable to control the behavior required to venture into business (Ajzen, 1991). This generates an unfavorable attitude toward such behavior. The absence of this fear would eliminate the perception of inability to control the situation and hence the unfavorable attitude toward the behavior (Gilmore *et al.*, 2004). Being entrepreneurial and venturing into new fields requires taking a certain degree of risk (Schumpeter, 1934). According to the classical decision theory, risk is defined as the variation in the distribution of possible outcomes, probabilities and associated subjective values (March and Shapira, 1987). Among the main factors differentiating entrepreneurs from employed workers was the uncertainty and the risk taken by the former (Entrialgo *et al.*, 2000; Thomas and Mueller, 2000). Various studies claim no significant difference between an entrepreneur and a non-entrepreneur (Babb and Babb, 1992; Palich and Bagby, 1995). However, Begley (1995) found the risk-taking propensity as the only trait which differentiates founders and non-founders. In the literature on entrepreneurship, entrepreneurs are generally characterized as having a greater propensity to take risks than other groups (Cromie, 2000; Thomas and Mueller, 2000). Again, while the risk of failure may vary from country to country, the perceptual nature of this variable suggests that the relationship should hold within a single country. This leads to the following hypothesis:

- H5. The higher the fear of failure, the lower the propensity for business startup in Saudi Arabia.

Knowledge of other entrepreneurs. Previous research suggests that personally knowing other entrepreneurs should generate positive attitudes toward entrepreneurs in general (Anderson, 2008; Hoang and Antoncic, 2003). A number of studies document that entrepreneurs consistently use knowledge of other entrepreneurs to get ideas and gather information to recognize entrepreneurial opportunities (Smeltzer *et al.*, 1991; Aaboen *et al.*, 2013). Considering the role theory (Veciana, 2007), individuals who know other entrepreneurs may hear about facts that facilitate firm creation. The argument is that the “development and the related likelihood of discovering entrepreneurial opportunities and increasing the willingness to start a new firm is strongly influenced by positive examples, so-called role models” (Fornahl, 2003, p. 50). From the network theory perspective, by establishing and maintaining a network within an entrepreneurial society, an individual can access support, information and other resources by tapping into the network (Baron and Shane, 2008). Networking relationships could provide a stronger platform on which the entrepreneur can build the business to reach results greater than those achieved by efforts made in isolation (Hoang and Antoncic, 2003). Throughout the Arab region, networks or *wasta* (the term used to refer to connections or networks) are a significant force in all aspects of decision-making and thus play a very important role in many aspects of careers and business development (Cunningham and Sarayah, 1993; Tlaiss and Kauser, 2011). These arguments lead to the following hypothesis:

- H6. In Saudi Arabia, knowing other entrepreneurs increases the propensity for business startup.

Entrepreneurial competencies

Numerous scholars have argued that the factors representing entrepreneurial competencies or efficacies influence the decision of an individual to start a new business (Arenius and Minniti, 2005). Nevertheless, the factors representing the construct differ from each study (Camelo-Ordaz *et al.*, 2016; McGee *et al.*, 2009; Urban, 2012). In this study, entrepreneurial competencies or efficacy are represented by perception of opportunities and confidence in one's skills. Previous studies have demonstrated that individuals with high entrepreneurial self-efficacy [which is an individual's *belief about their capability* to utilize resources and activities that are crucial in performing the specific tasks of an entrepreneur (Ballout, 2009)], *perceive more of opportunities* than risks in the environment because they believe in their ability to influence the achievement of goals (Urban, 2012).

Perception of opportunities. According to the theory of planned behavior, individuals' attitudes influence their behavior (Ajzen, 1991). Kahneman (2003) suggested that all behavior is seen as the simultaneous product of the operation of both intuitive and rational systems. The entrepreneurial behavior is viewed as the creation of a new organization to pursue an opportunity (Starr and Bygrave, 1991), which is also the product of both intuitive and rational systems of entrepreneurs. Entrepreneurs are distinguished by their ability to perceive and exploit opportunities overlooked by others (Kirzner, 1985; Schumpeter, 1942). The Saudi context would not contradict this relationship. This leads, therefore, to the following hypothesis:

- H7. In Saudi Arabia, the greater the individual perception of business opportunities the higher the propensity for business startup.

Confidence in one's skills. Perceptions of entrepreneurial skills indicate how confident respondents are in their possession of an adequate level of certain skills related to entrepreneurship. In the process of starting an enterprise and to successfully run a business,

an entrepreneur needs to identify potentially profitable opportunities, assemble human and financial resources, launch a new venture, manage its growth and build a viable business (Baron and Shane, 2008). Because this task has so many dimensions, an entrepreneur needs to have a broad variety of skills (Lazear, 2004). He has to be competent in many different aspects and should have the ability to play various managerial and non-managerial roles (such as manager, accountant, salesperson, chief engineer, etc.) in the process of founding a firm (Lazear 2004, 2005). Possessing these skills could make individuals feel more able to start a firm (Denoble *et al.*, 1999). While the existing research cites findings from outside of Saudi Arabia, these perceptions should maintain their relationship across countries leading to a similar relationship in the Kingdom. The following hypothesis captures that relationship:

H8. In Saudi Arabia, confidence in one's skills is positively related to the propensity for business startup.

Moderating variables. Gender. Díaz-García and Jiménez-Moreno (2010) suggested that gender can influence the independent variables toward entrepreneurial intentions and therefore, this may influence indirectly toward entrepreneurial intention. This can be exemplified where in some studies after going through an entrepreneurial education; the respondents regardless of their gender expressed a less enthusiastic intention to start a business (Oosterbeek *et al.*, 2010). Meanwhile, in other studies, a positive and significant relationship was observed between entrepreneurial education and entrepreneurial intention among male students through self-employment although not females (Walter *et al.*, 2013). This is also evident where there are scarce literature explaining the gender differences (Trevelyan, 2011) in the entrepreneurial intention based on perceptual factors such as entrepreneurial competencies or personalities (Koellinger *et al.*, 2013; Markman *et al.*, 2005). On the same note, there is hardly any significant work that comparatively analyzes whether the influence of these antecedents on the different entrepreneurial intention reported by men and women is modified once the individuals started a business. Therefore, following Szidonia *et al.* (2017) and Karimi *et al.* (2013), this study adopted gender as a moderating factor influencing the relationship between the independent factors and entrepreneurial propensity to start a business.

Generally, men and women do not appear to have significant psychological differences although their entrepreneurial objectives and management styles do diverge (Langowitz and Minniti, 2007). Contextual and historical variables such as legislation and the culture of a particular country, however, may discourage a particular gender to be involved in business (Ahl, 2006). In Saudi Arabia, men continue to dominate power structures, education, finance and travel (Hamad, 2005; Ahmad, 2011). Hence, only 6 per cent of women are engaged in early stage entrepreneurial activities compared to 12 per cent of males (Global Entrepreneurship Research Association, 2013). Several studies give further support to the idea that gender roles have an impact on business outcomes for male and female entrepreneurs and this is evident in representative samples of businesses and within specific business niches (Ahmad *et al.*, 2014; Du Rietz and Henrekson, 2000). Anna *et al.* (2000) and Ahmad (2011) argued that studies in the international context has proved that gender also plays a role in business performance, insofar as it influences the self-perception of women entrepreneurs and their abilities to realize business growth given the desirability society attaches to business success. In spite of some positive regulatory changes, in practice, government officials in the country often continue to implement old laws in this area which restrict women's ability to manage their own businesses (Alturki and Braswell, 2010). These findings are supported in the Saudi context in the work of Danish and Smith (2012) who

indicate that institutional barriers to female entrepreneurship continue to exist including the requirement of a male representation in the establishment of a new venture. Thus, this study examines the moderating roles of gender toward the propensity of business start-up:

- H9. The positive effect of the independent variables on the propensity of business start-up is stronger among men than among women.

Educational level. Individuals' personality traits have been shown to influence their intentions to start a business (Mueller and Thomas, 2001). However, some of these studies do not consider the moderating effect of higher education when investigating the relationship between the personality traits and their entrepreneurial intentions (Ertuna and Gurel, 2011). Robinson and Sexton (1994) for instance found that higher education increases the probability of becoming self-employed. They argued that through education, it enables individuals to identify business opportunities in addition to equip themselves with the necessary skills to start a business. Similarly, Arenius and De Clercq (2005) corroborated the argument where their study found that there is positive correlation between education level and opportunity recognition.

Formal education frequently produces non-linear effects in the probability of becoming an entrepreneur (Davidsson and Honig, 2003; Evans and Leighton, 1989). Some studies suggest that highly educated individuals are more likely to establish new ventures (Bates, 1990), whereas other studies detect an inverse relationship between educational attainment and firm formation (Storey, 1994). This may be due to the distinction between necessity-based and opportunity-based entrepreneurship. Despite the fact that the relationship between education and entrepreneurship is mixed (Arenius and Minniti, 2005; Blanchflower, 2004), it is proposed that higher levels of education would be more likely to be associated with entrepreneurial endeavors in a society like Saudi Arabia where opportunity rather than necessity appears to drive business startup. This variable may serve as a proxy for both financial and human capital but would result in the following hypothesis:

- H10. The positive effect of the independent variables on the propensity of business start-up is stronger among higher level of education.

Control variables. Age. Many studies examine the demographic profile of individuals as part of the entrepreneurial analysis. The most popular components are age (Szivas, 2001), gender (Minniti and Nardone, 2007), income status (Koellinger, 2008) and educational attainment (Dolinsky *et al.*, 1993). According to several studies, the dominant age of individuals to become entrepreneurs varies and is in the category of middle-age and older, that is, from 25 to 50 years (Ahmad and Xavier, 2012; Avcikurt, 2003), 30 to 45 years (Ahmad, 2005) and 45 years and older (Szivas, 2001; Getz and Carlsen, 2000). Age is a proxy variable for personal wealth – the older a person is, the higher the potential period to accumulate wealth. However, Reynolds *et al.* (2003) and Blanchflower (2004) found entrepreneurs tend to be relatively young with the highest propensity of entrepreneurship occurring in the range of 25 to 34 years. This is consistent with the previously mentioned study within the Saudi Arabia context indicating that science-based entrepreneurship is more probable among younger scientists (Alshumaimri *et al.*, 2012). Therefore, given the uncertainty of previous findings combined with indications from a single study in Saudi Arabia, this study considered it appropriate to control age and follows the approach by Camelo-Ordaz *et al.* (2016). The relationship between each variable is illustrated in Figure 1 describing the study's research model.

The data used in this analysis are taken from the research project of the GEM, a well-known international survey of entrepreneurial activities (Tsai *et al.*, 2016) which focuses on

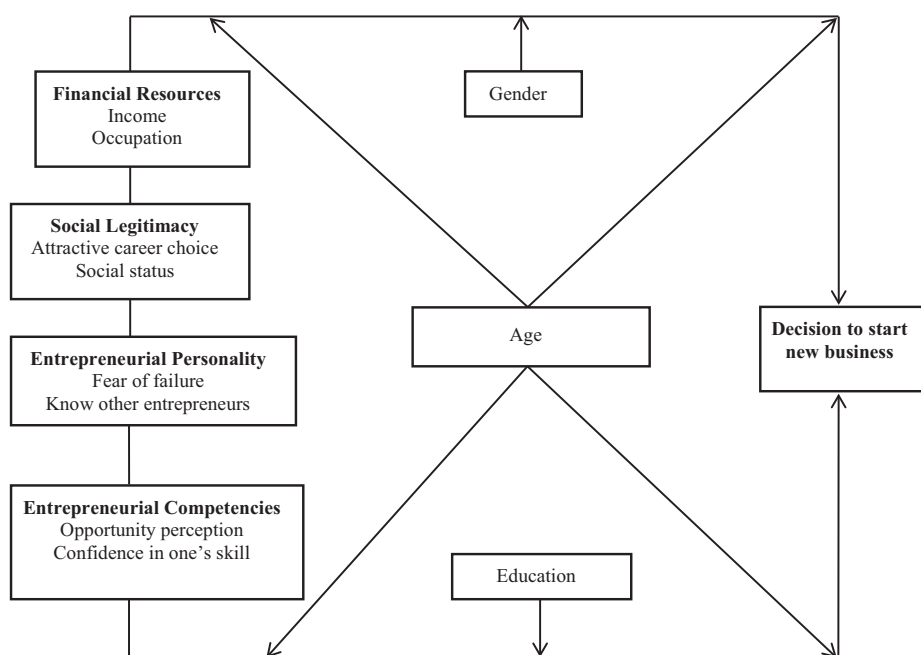


Figure 1.
Factors influencing
new business start-up
in Saudi Arabia

the extent of the difference in entrepreneurial activities carried out in 2009 in the Kingdom of Saudi Arabia. This is the latest year and the only available data for which GEM data was collected. The GEM project has facilitated the process of measuring entrepreneurial activities in many countries (Schott, 2008) with each participating nation an Adult Population Survey comprising about 2,000 respondents using a stratified sampling technique. These respondents aged 18 to 64 are asked a variety of questions regarding their engagement in and attitude toward entrepreneurship (Klyver, 2008). All the GEM respondents in this country's sample are Saudis. Based on all the procedures, the final number of usable responses from this study was 2000.

Measures. Dependent variable: the decision to start up a new business.

The dependent variable in this study is the decision to start up a new business, where 0 indicates the decision NOT to create a business and 1 is the decision to start a new venture. Based on Arenius and Minniti (2005), we adopted the {BSTART} item 'Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?' as the dependent variable:

Independent variables:

(1) Financial resources:

- *Household income* {XXHHINC}: Respondents were asked to provide information about their household income, counting all wages, salaries, pensions and other incomes that they generated. The categories used are below SR4,000 (US\$1,066), SR4,000-SR7,000 (US\$1,867), SR7,001-SR12,000 (US\$1,867-3,200), SR12,001 to SR15,000 (US\$3,200-4,000) and above SR15,000 (US\$4,000) per month. However, for the purpose of consistency in the analysis, the data

were later recoded into binary representing 0 as below average (less than SR7, 000) and 1 as above average. To highlight the descriptive nature of the sample, the initial categories of income were presented instead of the binary categories.

- *Working status* {OCCU}: Respondents were asked to provide their employment status at the time of survey. The original data comprise 1 as “working full-time”, 2 as “working part-time” and 3 as “not working”. Similar to income, the data were later recoded into binary to 0 as “Not working” and 1 as “working”.

(2) Social legitimacy:

- *Attractive career choice* {NBGOODC}: Dichotomous variable being equal to 1 if the respondent responds affirmatively to the question: “In my country, most people consider starting a new business a desirable career of choice” and 0 otherwise.
- *Social status* {NBSTATUS}: A dichotomous variable being equal to 1 if the respondent responds affirmatively to the question: “In my country, those successful at starting a new business have a high level of status and respect” and 0 otherwise.

(3) Entrepreneurial personality:

- *Fear of failure* {FEARFAIL}: A dichotomous variable being equal to 1 if the respondent responds affirmatively to the question: “Fear of failure would prevent you from starting a business” and 0 otherwise.
- *Knowing other entrepreneurs* {KNOWENT}: Dichotomous variable equal to 1 if the respondent responds affirmatively to the question: “Do you know someone personally who started a business in the past 2 years?” and 0 otherwise.

(4) Entrepreneurial competencies:

- *Opportunity perception* {OPPORT}: It is measured using a dichotomous variable taking value 1 if the respondent responds affirmatively to the question: “In the next six months there will be good opportunities to startup new businesses in the area where you live” and 0 otherwise.
- *Confidence in one’s skills* {SUSKILL}: A dichotomous variable equal to 1 if the respondent responds affirmatively to the question: “You have the knowledge, skill and experience required to start a new business” and 0 otherwise.

Moderating variables.

- *Gender* {GENDER}: Respondents were asked to provide their gender – a dichotomous variable taking value 0 for males and 1 for females.
- *Educational level* {XXREDUC}: The respondents were asked to state the highest level of education they had attained. For the purpose of consistency in analyzing using binary logistic regression, the education category was coded into 0 as “no or limited education” and 1 as “formally educated”.

Control variable.

- *Age* {AGE7C}: Respondents were asked to indicate the range that best describes their age at the time of survey. The age categories are categorical where 1,017 denotes under 18, 1,824 is between the age of 18 and 24, 2,534 is

between 25 and 34, 3,544 is between 35 and 44, 4,554 – between 45 and 54, 5,564 – between 55 and 64 and finally 6,599 is above 65 years old.

Data analysis. Specification. Given the nature of the research questions and available data – evaluating the influence of a series of independent variables on a dichotomous dependent variable – the appropriate data analysis is the binary logistic regression model.

Verification. This paper verified the model using the likelihood ratio test, which verifies the statistical significance of all the model coefficients.

Results

Initially, descriptive statistics was run on the sample. Table I illustrates the profile of the sample.

The respondents comprise a relatively larger number of males as compared to females. This is considered normal as Saudi Arabia is a male-dominated society and due to cultural restrictions, it can be difficult to obtain responses from females. The sample is equivalent with the country ratio of male to female at 1.05. In terms of age bracket, the study managed to obtain an equal representation of the respondents from all ages with a slightly more representation from the “productive age” group (25-44 years old). The age distribution of the sample is also representable to the national age distribution (United Nations, 2012). In terms of household income, the sample is skewed toward the monthly income bracket of SR15, 000 (US\$4, 000). These figures correlate with the education level where those who are formally

Profile	Frequency (<i>n</i> = 2000)	(%)
<i>Gender</i>		
Male	1230	61.50
Female	770	38.5
<i>Age</i>		
Below	13	0.7
18-24	290	14.5
25-34	790	39.5
34-44	509	25.5
45-54	226	11.3
55-64	66	3.3
Above 65	7	0.4
Missing	99	5.0
<i>Monthly Income: (Saudi Riyal [SR])</i>		
Below 4,000 (US\$1,066)	103	5.5
4,000-7,000 (US\$1,066-1,867)	133	7.1
7,001-12, 000 (US\$1,867-3,200)	116	6.2
12, 001-15, 000 (US\$3,200-4,000)	109	5.8
Above 15,000 (US\$4,000)	1,250	66.4
<i>Education</i>		
No or limited education	215	10.8
Formally educated	1,785	89.3
<i>Work status</i>		
Working	1,271	63.6
Not working	729	36.5

Table I.
Profile of the
respondents

educated dominated the group and 64 per cent of the respondents are working full time. The source of income and income distribution in the sample corresponds with the figures provided by Euromonitor (2014) where 59 per cent of the income is through employment and the annual household income for Saudi Arabia in 2009 is equivalent to SR11,928 (US\$3,181) per month. The amount has eventually increased to SR13,385 (US\$3,569) in 2012.

A correlation matrix for the variables was computed and is presented at the end of the text in [Table II](#). Eight of the ten predictor variables have a relatively strong correlation ($\rho < 0.01$) with the business startup measure. [Table II](#) shows that male respondents are more likely to start up a business than female respondents ($\rho = -0.095$), whereas working respondents are more likely to qualify as entrepreneurs than their non-working counterparts ($\rho = 0.063$). In terms of education, it is observed that those who are more educated are more likely to start a business. In terms of social desirability, both variables are correlated with business startup. Finally, another important relationship is entrepreneurial personality which demonstrates a relationship with new business venture.

In the theory section, ten hypotheses are derived from the influence of the various variables toward the entrepreneurial business startup within the Saudi Arabian population. Because our dependent variable is binary, we analyze our data using binomial logistic regression model. The binomial logistic regression estimates the likelihood of an event happening which, in our case, is starting a business. Before we proceed with the analysis, a preliminary analysis was conducted to determine that multicollinearity was not an issue. The results showed that the multicollinearity test was satisfactory because the highest VIF was 3.196 and the highest Condition Index was 11.8. A condition index greater than 15 indicates a possible problem and index greater than 30 suggests a serious problem with collinearity. Subsequently, we assessed the goodness of fit of the models using the Omnibus test (Sig. level), Cox and Snell Pseudo R^2 , Nagelkerke Pseudo R^2 , Hosmer–Lemeshow test (Sig. level) and the rate of correct classifications. The results of the goodness-of-fit statistics scores are showed in [Table III](#).

The findings in [Table III](#) depict that the Omnibus test is significant ($p < 0.001$), denoting acceptance of the hypothesis that β coefficients are different from zero. The test gives an overall indication that the model is performing well. Nevertheless, the variables considered here only explain a limited fraction of the propensity to start a new business (pseudo R^2 statistics). To complement this test, the Hosmer–Lemeshow test is the most reliable test of model fit available in SPSS. In this test, poor fit is indicated by a significance value less than 0.05 which was not reached in this case.

The Cox and Snell R^2 and the Nagelkerke R^2 values provide an indication of the amount of variation in the independent variable explained by the model. These are described as pseudo R^2 statistics. In this analysis, Cox and Snell Pseudo R^2 test demonstrates that the model is significant.

The logistic regression results for the model are shown in [Table IV](#) below.

In this model, a single variable from only four categories is significant. From the analysis, there was not enough evidence to show that gender and education moderate the relationship between the independent variables toward the respondent's intention to start a business. Within the antecedent factors, income was shown to influence positively the probability of the respondent to start a business. The perception that successful entrepreneurs gain high social status and prestige was also significantly and positively related to new business start-up. In the area of perceptions of the environment as well as one's own personal traits, fear of failure is negatively and significantly linked to propensity to start a new business (-0.656 significant at the 0.10 level). Finally, from the social capital perspective, knowing someone who has started a business in the past two years is

	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	1											
2 Income	-0.013	1										
3 Employment	0.063**	0.004	1									
4 Desirable career	0.068**	0.003	-0.018	1								
5 High status	0.059**	-0.003	0.042	0.219**	1							
6 Fear of failure	-0.066**	0.030	-0.065**	0.122**	0.092**	1						
7 Knowing other entrepreneur	-0.062**	0.025	0.240**	0.037	0.048*	0.180**	1					
8 Opportunity perception	0.057*	0.066**	-0.033	-0.038	0.013	-0.078**	-0.110*	1				
9 Entrepreneur skills	0.077**	0.023	0.207**	-0.070**	-0.027	-0.194**	-0.029	0.254**	1			
10 Gender	-0.095**	0.031	-0.818**	0.008	-0.052*	0.046*	-0.270**	-0.205**	-0.205**	1		
11 Education level	-0.249**	0.090**	0.227**	0.029	-0.012	0.025	0.114**	-0.018	0.057*	-0.187**	1	
12 Business startup	-0.020	0.042	0.141**	-0.038	-0.036	-0.039	0.182**	-0.024	0.026	-0.149**	0.048*	1

Notes: **Correlation is significant at the 0.01 level (two-tailed); *correlation is significant at the 0.05 level (two-tailed)

Table II.
Correlation table of all the constructs

significantly and positively related to the propensity to start a business (1.298 significant at the 0.01 level).

Based on the equation of the model and coefficients derived from the analysis, the equation was developed using Microsoft Excel. Initially, the accuracy of the equation was verified with the output from SPSS. Upon confirming the accuracy of the equation, the variables of the independent variables were manipulated to determine the probability of an event – the probability of starting a new business. The results corroborated the findings of the factors that influenced new business start-up in Saudi Arabia. Based on the scores, the highest probability of starting up a new business comprises of an individual with high income, who believes that successful entrepreneurs gain high social status and prestige, undeterred by fear of failure and has connections with other businessmen. [Figure 2](#) illustrates the results of the probability of starting a business based on the manipulation of the independent factors.

Discussion

Attempting to understand which factors lead individuals to start a business in Saudi Arabia is a complex task as demonstrated by the findings. Only four out of ten hypotheses in this study prove to be significant, whereas the other six did not. Overall, the study shows that entrepreneurship in Saudi Arabia is more likely among high income individuals with lower levels of fear of failure, view entrepreneurship as high status among the community and are also embedded in social circles characterized by other entrepreneurs.

Table III.
Goodness-of-fit
statistics

Test	Final model
Omnibus test (Sig. level)	0.000
Cox and Snell Pseudo R^2	0.054
Nagelkerke Pseudo R^2	0.154
Hosmer–Lemeshow test (Sig. level)	0.086
Percentage correct	94.3

Table IV.
Logistic regressions
on entrepreneurial
intention

	B	S.E.	Wald	Sig.	Exp (B)
Age	0.000	0.000	0.814	0.367	1.000
Income	0.739	0.407	3.291	0.070*	2.093
Occupation	0.702	0.527	1.774	0.183	2.019
Attractive career choice	−0.288	0.269	1.144	0.285	0.750
High social status	−0.676	0.359	3.458	0.060*	0.509
Fear of failure	−0.656	0.267	6.038	0.014**	0.519
Know other entrepreneur	1.298	0.224	33.623	0.000***	3.661
Future opportunities	0.008	0.234	0.001	0.972	1.008
Entrepreneurial skills	−0.100	0.315	0.100	0.752	0.905
Gender	−1.176	1.036	0.029	0.865	0.839
Education	0.419	0.614	0.464	0.496	1.520
Gender × Education	−1.109	1.019	1.185	0.276	0.330
Constant	−3.425	1.015	11.398	0.001	0.033

Notes: ***Significant at $p < 0.01$; **significant at $p < 0.05$; *significant at $p < 0.10$

Figure 2.
Probability of starting a business based on the research model

	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Age	Income	occu	Atracareer	Histatus	fearfail	knowetr	opport	suskill	gender	Edu	gender_x_edu	Constant			
0.000	0.739	0.702	-0.288	-0.676	-0.656	1.298	0.008	-0.100	-0.176	0.419	-1.109	-3.425			
-0.000104	0.738557	0.702383	-0.28769	-0.67589	-0.65583	1.297622	0.00816	-0.09966	-0.17613	0.418551	-1.10874	-3.4253129			

Labels															
1017 = <18															
1824 = 18-24															
2534 = 25-34															
3544 = 35-44															
4554 = 45-54	0 = Below a	0 = No job	0 = Not attr	0 = Low stat	0 = No fear	0 = Don't kn	0 = No oppo	0 = No skill	0 = Male	0 = No Edu					
5564 = 55-64	1 = >Above	1 = Working	1 = Attractiv	1 = High soc	1 = Fear of failure	1 = Know someone	1 = Some potential	1 = Have skills	1 = Female	1 = Formal edu					
6599 = >65															

	Age	Income	occu	Atracareer	Histatus	fearfail	knowetr	opport	suskill	gender	Edu	gender_x_edu	Odds	Prob event
1	1824	0	0	0	0	1	0	0	0	1	0	0	-4.4474	0.0116
2	1824	0	0	0	0	1	0	0	0	0	0	1	-5.3800	0.0046
3	1824	1	0	0	0	1	0	0	0	0	0	1	-4.6414	0.0096
4	1824	0	0	0	0	1	0	0	0	0	0	1	-5.3800	0.0046
5	1824	0	0	0	0	0	0	0	0	0	0	1	-4.7241	0.0088
6	1824	0	0	0	1	0	0	0	0	0	0	1	-5.4000	0.0045
7	2534	1	1	1	1	0	1	1	1	0	1	1	-2.6961	0.0632
8	2534	1	1	1	1	0	1	1	1	1	1	1	-2.8723	0.0535
9	2534	1	1	1	1	0	1	1	1	0	0	1	-3.1147	0.0425
10	3544	1	1	1	1	0	1	1	1	0	1	1	-2.8014	0.0572
11	4554	1	1	1	1	0	1	1	1	0	1	1	-2.9068	0.0518
12	4554	1	1	1	1	1	1	1	1	0	1	1	-3.5626	0.0276
13	4554	1	1	1	1	0	1	1	1	1	1	1	-3.0829	0.0438
14	5564	1	1	1	1	1	1	1	1	0	1	1	-3.6679	0.0249

Financial resources – income

The results of the analysis reflect the financing pattern of entrepreneurs in most developing countries where internal finance (income) is the major source of finance to start a business (Lingelbach *et al.*, 2005). Bygrave (2003) argued that entrepreneurs in emerging markets rely heavily on informal sources such income, personal loans from families and friends to start their businesses where these sources provided between 87 per cent to 100 per cent of the outside capital raised by entrepreneurs. On the same note, based on a study conducted by Gallup poll (Badal and Ott, 2015), about two-thirds of prospective entrepreneurs (68 per cent) see the lack of adequate personal savings as a hindrance to startup a new business venture. In the case of Saudi Arabia, potential entrepreneurs are able to save startup capital from their salaries where well-paid government positions are a major source of employment. The results of the study also support the findings of GEM 2016 Global study where TEA rates generally rise with level of annual household income which means that adults in higher-income households are more likely to be involved in early-stage entrepreneurial activity.

Fear of failure

In the area of perceptions of the environment as well as one's own personal traits, the current study found a negative relationship between fear of failure and the likelihood of starting a business in Saudi Arabia. This is consistent with numerous studies in other countries (Thomas and Mueller, 2000). Weber and Milliman (1997) suggest that an increased perception of the probability of failure reduces entrepreneurial incentives by increasing the perceived risks of starting a business. One could speculate that the population is generally being prudent or cautious about the prospect of starting a business. In a comparative study of GEM data (2009-2012) across the Middle East, it was found that Saudi Arabia ranks second behind Yemen as the highest rate for “fear of failure” as compared to other countries such as UAE Jordan, Iran, Turkey, Egypt with Syria having the lowest rate (Rosinaite, 2013). This might be the plausible reason why Saudi Arabia has one of the lowest rates of nascent entrepreneurship in the MENA region (GEM, 2010).

Fear of failure has implications for future research of value to policy makers concerned with a diversification strategy based on entrepreneurship. Elliot and McGregor (2001) argued that fear of failure may not simply be the inverse of hope of success (in this case new business creation). Beyond financial implications, failure in entrepreneurial activity can also have social and psychological implications. From a policy perspective, understanding the fear failure officials can either reduce the risk of failure or the fear of failure. While social mores may be difficult to change, bankruptcy laws can, for example, be altered to mitigate some of the harsher implications of failure. Further, additional training opportunities can help reduce both the fear of failure and the potential for business failure. By altering the success/failure perception and probability, additional entrepreneurial activity may be encouraged.

Social legitimacy – high status

The finding of this study is in conformance of the results of Stevenson *et al.* (2010) study. Their study which represent GEM for the MENA region in 2009 showed that a higher proportion of adults in the region agree that those successful at starting a new business have a higher level of status and respect than average for GEM countries (except in Algeria). Yemen was rated first among all countries on the proportion of the adult population who consider entrepreneurship a good career choice, believe successful entrepreneurs have high status and respect and often see stories in the media about successful new businesses. Therefore, it was observed that the media play a larger role in promoting entrepreneurship in some countries than in others. On a larger perspective, across 62 economies around the world, more than two-thirds of the adult population believes that entrepreneurs are well-regarded and enjoy high status within their societies (GEM, 2016).

Entrepreneurial network

Finally, research shows that knowing other entrepreneurs is positively and significantly related to starting a business. The positive influence of this variable can be attributed to the fact that role models and being part of networks affect opportunity recognition (Singh, 2000), entrepreneurial orientation (Ripolles and Blesa, 2005) and the vocational decision to become an entrepreneur (Davidsson and Honig, 2003). The resources an entrepreneur obtains from the network are encompassing and they include elements such as information (Burt, 1992), advice (Christensen and Klyver, 2006) and legitimacy (Shane and Cable, 2002). Krueger *et al.* (2000) further argued that access to information and resources through knowing existing entrepreneurs may also positively influence self-efficacy and perceived feasibility in relation to starting a business. As such, it is apparent that our findings are relevant with past studies in other countries (Davidsson and Honig, 2003; Huang *et al.*, 2013).

In the context of the Middle East culture, *wasta*, the term used to refer to social networks or connections (Cunningham and Sarayah, 1993), is an important element as it permeates the culture of all Arab countries (Tlaiss and Kauser, 2011) and is a force in every significant decision (Hutchings and Weir, 2006; Whiteoak *et al.*, 2006). Opportunities are often made available to an individual depending on how networked he is (Kathawala *et al.*, 2012). Individuals with substantial wealth or with influential occupational roles in either private or public institutions use *wasta* connections extensively to get things done (Cunningham and Sarayah, 1993). While there is a dearth of research done on *wasta* (Malline 2007), the findings of the study should act as catalysts for more studies to look into this area. Therefore, it is likely that *wasta*, like *guanxi*, which is pervasive in Chinese business and social activities (Michailova and Worm, 2003)

determine access to potentially valuable resources (Vissa, 2011; Arenius and Minniti, 2005) that supplements the role modeling of entrepreneurial activity.

Conclusions and future research

While confirming that some of the indicators of likelihood to start new ventures in more developed countries seem to hold in the Saudi Arabia context, other relationships were not significant. These include age, education, current employment, opportunity perception, social attractiveness, perceived entrepreneurial skills. Some variables such as social attractiveness may be explained through cultural homogeneity and others such as age, education and being employed may suffer from contrasting effects such as having enough wealth to start a business but not the necessity of starting a business as might be associated with income and employment. The personal perception questions, however, are less easily ignored. Why individuals who perceive opportunity or perceive that they have entrepreneurial skills are not more likely to start a business is puzzling and inconsistent with the literature. Perhaps, the strong influence of knowing an entrepreneur or the influence of *wasta* in Saudi Arabia is so strong and prevalent that perceive opportunity or perceive entrepreneurial skills is secondary in starting a business. This is plausible because a pervasive problem throughout the region is clientelism – which is a form of *wasta* – where decisions are made on the form of personal connections or nepotism favoring family or clan members (Rubin, 2012, p. 149).

Despite the considerable role of *wasta* in the decision-making process [Arab Human Development Report (AHDR), 2005; Cunningham and Sarayah, 1993; Hutchings and Weir, 2006], only a small body of literature has analyzed the impact of using it on new business startup. Tlaiss and Kauser (2011) argued that gaining a systematic understanding of *wasta* in the Arab world is a worthwhile objective given that *wasta* is an important component of Middle Eastern culture. Therefore, future studies should look at how ways in which *wasta* influences the likelihood of starting a business whether from a financial, human capitals or opportunity perspective.

Lingelbach *et al.* (2005) stated that while entrepreneurial opportunities are broader in developing countries, limited personal and family savings and an absence of financial innovation severely limits the growth prospects of promising startups in this region. The authors argued that if the odds of a new enterprise surviving its first five years are less than 50 per cent, it may not be rational for an entrepreneur to commit financial resources to a new firm. Hence, that may explain why income is one of the main sources of capital for new business startup. However, in the area of personal finance linkage to new firm formation, there is lack of literature concerning how income influences the probability of individuals to start a business especially in developing countries. In the Middle East culture where family connections or clans is important attributes of the social culture, intra-familial financial linkages is a critical area for future empirical research, given that access to finance continues to be cited as an important barrier to new firm formation.

Methodologically, the measurement item for this study is a single-item measure which is common in previous studies especially in larger national population surveys (Ahmad *et al.*, 2014; Kwon and Arenius, 2010). The data, however, limit the possibility of a more rigorous analysis such as structural equations modeling. It is also not possible to examine the data to determine causal relationships between the independent and dependent variables. Therefore, it is hoped that future work should include a multi-item measurement and, perhaps, subjective measurements as well.

Overall, our study suggests that income, fear of failure, perception that successful entrepreneurs gain high social status and knowing other entrepreneurs are important

factors impacting the decision to start a new business. It is hoped that future work will begin to explore more deeply the ways in which these factors impact that decision. Such deepened understanding has the potential to lead to better policy and practice in encouraging startup ventures while also contributing to their eventual success.

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