

The Role of Entrepreneurship Education and University Environment on Entrepreneurial Interest of MBA Students in Saudi Arabia

Aljohara Khalid Ababtain Yusuf Opeyemi Akinwale
College of Business, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia

Abstract

Entrepreneurship has been recognized as an economic panacea, which engenders employment generation and economic development. This becomes so important at this time when many countries including Saudi Arabia are facing the challenges of unemployment in their economies. Among the goals of Vision 2030 is to reduce unemployment and increase the participation of private sectors in Saudi Arabia. Thus, this paper investigates the role of entrepreneurship education and university environment on entrepreneurial interest among MBA students in Saudi Arabia. The data is obtained from the survey conducted among the MBA students in the College of Business at Imam Abdulrahman Bin Faisal University. Using ordered logistic regression model, the results reveal that variables '*I have taken entrepreneurship course before (X1)*', '*Entrepreneurship course has enhanced my practical managerial skills in order to start a new business (X3)*' and '*The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business (X6)*' are statistically significant and have great likelihood of influencing students' entrepreneurial interest. This study suggests that Saudi government should make entrepreneurship course compulsory for all fields of study as it has a significant impact on the entrepreneurial interest of students as well as challenge the university environment to fully use the entrepreneurship centres within the university to encourage students to engage in entrepreneurship activities right from school.

Keywords: Entrepreneurship education; university environment; entrepreneurial interest; MBA students; Saudi Arabia; unemployment; logistic regression.

DOI: 10.7176/JESD/10-4-05

1. Introduction

The issue of unemployment is a major economic issue in any country, and the rate at which fresh graduate students continuously search for jobs that are most times not available is becoming alarming. Furthermore, the universities do not always succeed in developing market demand for the traditional degrees as the gap between the graduates and the market demand is becoming increasingly wider (Brown, 2003). The stream of well-educated citizens that most universities all over the world provide has negatively affected the unemployment rate (Saks and Ashforth, 2002). According to Okorafor and Okorafor (2011), universities turn out graduates each year with different abilities in managerial skills who can find job opportunities in public and private sectors in the community whereas these sectors are not always capable of providing all the university graduates the jobs they needed. These sets of unemployed youths become frustrated as they are not able to secure themselves with the jobs they have been trained to do in the universities.

Kingdom of Saudi Arabia (KSA) is not exempted from this issue as the rate of unemployment in the Kingdom is growing as large numbers of graduates are finding it difficult to secure employment unlike before. The unemployment rate for Saudis in the second quarter of 2017 was 12.8 percent (Saudi General Authority for Statistics, 2017). This comprises 7.4 percent year-on-year unemployment rate for men and 33.1 percent year-on-year for women. When taking the total population in Saudi including non-Saudis into consideration, the total rate of unemployment was 6 percent in the second quarter which includes 3.3 percent year-on-year for men and 22.9 percent year-on-year for women. The highest percentage (34.2 percent) of Saudi job-seekers was in the age group 25-29 years and approximately half of Saudi job-seekers are university graduates (General Authority for Statistics, 2017). There is definitely need to strategically address this issue if reduction of unemployment rate and increasing the participation of SMEs to GDP have to be realized as stated as part of the goals of Vision 2030 of the Kingdom of Saudi Arabia.

That is why most developed, emerging and developing countries have recognized entrepreneurship as an economic panacea, which engenders employment generation and economic prosperity (Packham et al, 2010). Many studies have shown that there is a positive correlation between entrepreneurship and economic growth (Lena and Wong, 2003). In the recent years, the most obvious alternative solution to unemployment is self-employment and entrepreneurship. In order to manage this situation, universities in developing countries have included entrepreneurship courses in their curriculum (Harry Matlay and Dehghanpour Farashah, 2013). Nowadays, many universities provide entrepreneurship education for the reason that the university graduates will be better equipped with the skills needed to be entrepreneurs, which allows the graduate to be a job creator rather than a job seeker (Zamberi, 2013). In developing the local economy, there is evidence that entrepreneurs with academic education

are more important than entrepreneurs with a lesser level of education (Taatila, 2010; Kwiek, 2012). Entrepreneurship and entrepreneurship education also have a greater market chance and advantages like promoting the start-ups (Holmgren et al., 2004). There is empirical evidence showing that university-level entrepreneurship education has the most critical role in developing entrepreneurial intention (Sánchez, 2011; Peterman and Kennedy, 2003).

Building innovative talents and stimulating the entrepreneurial spirit is essential for fostering youth participation in the economic growth and development of any economy (Mahadea et al., 2011). Teaching entrepreneurship education in tertiary institutions is considered a strategic tool to enhance a nation's development (Muhammad et al., 2011). Intention to do a certain act is seen as a determinant of the actual behavior exhibited (Ajzen, 1991). Thus, entrepreneurial interest has been acknowledged to be a key predictor of entrepreneurial behaviour (Krueger et al., 2000). Consequently, exploring what influences entrepreneurial intent is a critical factor in entrepreneurship research. Many studies have examined various factors including entrepreneurship and university environment, however, there is dearth of such studies in Saudi Arabia as at the period the authors conducted this study.

Based on the foregoing problems facing the country and the Vision 2030 of the Kingdom of Saudi Arabia as well as a dearth of studies in this area, there is a need to investigate the entrepreneurial interest among the university students in Saudi Arabia. Hence, this study seeks to contribute to the existing literature and specifically fill the gap of such study in KSA.

2. Literature review and hypotheses formulation

The significance of entrepreneurship education and university environment has been acknowledged as one of the crucial factors that help youths to understand and foster an entrepreneurial interest and attitude (Gorman et al., 1997; Kourilsky and Walstad, 1998; Wang and Wong, 2004; Jabeen et al., 2017). Entrepreneurship education at the university level provides the opportunity for students to be more aware of the latest developments, which allows them to have a more clear vision on how they can implement these developments into future business. The importance is in using the high-level skills in starting a new business and developing those skills so as to grow the business (Minniti and Lévesque, 2008). Therefore, large amounts of academically educated people are expected to pursue an entrepreneurial career. However, few research studies about entrepreneurship education focus on the university level (Raposo et al., 2008; Sánchez, 2009).

Sine and Lee (2009) recognized that entrepreneurs are supporters of social and economic development. In most developed countries the number of Entrepreneur Education Programs (EEPs) has increased so much in the past three decades (Barak, 2012; Fayolle et al., 2006; Katz, 2008; Spiteri and Maringe, 2014; Varblane and Mets, 2010). These programs are intended for training students to be self-employed, and the students are learning about setting and starting their own business venture. As the number of EEPs is increasing, earlier research provided varied results on the affect EEPs have over entrepreneurial intention. Some studies found that EEPs have a positive impact on entrepreneurial intention (Krueger et al., 2000; Lüthje and Franke, 2003; Guerrero et al., 2008; Krueger, 2009; Lee and Wong, 2004; Liñán and Chen, 2009; Müller, 2011; Iakovleva et al., 2011). For example, many studies found that EEPs have a positive influence on the perceived attractiveness and feasibility of a new business (Fayolle et al., 2006; Müller, 2011; Souitaris et al., 2007; Zhang et al., 2014) and on the personal self-efficacy, pro-activeness, and the ability to take risk (Sánchez, 2013). Many other researchers found that there is a positive and direct relation between attending an EEP and the student's intention in starting a new business after graduating from the program (Karlan and Valdivia, 2006; Dickson et al., 2008; Pittaway and Cope, 2007; Souitaris et al., 2007). On the opposite end, other researchers found that there is a negative relation between attending an EEP and entrepreneurial intention (Martin et al., 2012; Mento and Friedrich, 2007; Oosterbeek et al., 2010), while few other studies found no relation between attending an EEP and entrepreneurial intention (do Paço et al., 2015).

While traditional education is transforming the knowledge and skills, entrepreneurship education is seen as a model of changing the motive and the attitude (Hansemack, 1998; Hansemack, 1998; Zamberi, 2013; Fayolle and Gailly, 2015). Entrepreneurship and entrepreneurship education have a greater market chance (Béchar and Grégoire, 2005; Holmgren et al., 2004). Desire and the ability to start a new business are two important basics for success; entrepreneurial attitude is highly required in not only entrepreneurial career but also in independent employment affairs (Korunka et al., 2010). Entrepreneurship education is not merely about educating students on how to run a venture (Cathy, 2005), it is rather more about students learning how to create and sustain a business (Burlison, 2005). The most critical aspects of entrepreneurship education are allowing the individual to identify the opportunities in their life, the ability to start a new venture and manage it, and the ability of the individual to be a more creative and critical thinker (Dahleez, 2009). Furthermore, entrepreneurship education is not only about the knowledge and skills in business, but it is mostly about developing beliefs, values, and attitudes, in order to make entrepreneurship more desirable to students than usual paid job or unemployment (Holmgren et al., 2004; Sánchez, 2011).

Taking into consideration the spreading of entrepreneurship education, it is essential to establish

entrepreneurship education framework at the university level, keeping in mind that not every individual studying entrepreneurship or receiving entrepreneurship education will have the desire to be an entrepreneur, promoting entrepreneurship education and comprehending the role of this education and also what students expect from these programs can support the idea that entrepreneurs are often made not born (Aruwa, 2004; Van der Sijde et al., 2008). Keat and Ahmad (2012) stated that having an excellent entrepreneurship educator and an educational institution; will transform the traditional way of teaching and transferring knowledge to student into encouraging them to be more active rather than the mere act of receiving knowledge passively. In entrepreneurship education, the teaching methods are supposed to be guided towards entrepreneurship taking into consideration the social interaction, student activation, and student orientation (Ollila and Williams-Middleton, 2011).

To measure the role of entrepreneurship education in the formation of entrepreneurial intention research was based on the theory of planned behavior (TPB) (Ajzen, 1991), which has a steady theoretical foundation (Schlaegel and Koenig, 2014; Krueger and Carsrud, 1993). TPB states that an individual's behavior is based on the intention of that individual, the stronger the individual's intention to do a given behavior, the more likely it will happen. Moreover, the individual's intention to perform a given behavior is based on three things, the attitude toward behavior, subjective norms, and perceived behavioral control. Entrepreneurship education is viewed as a strong predictor of entrepreneurial intention.

Business education is different from entrepreneurship education; entrepreneurship education is presumed to raise the awareness of entrepreneurship as an alternative career path to employment (Slavtchev, Laspita, & Patzelt, 2012) whereas business education is about educating students to work at established businesses (Grey, 2002). It is safe to say that entrepreneurship education is better related to entrepreneurial intentions than business education because entrepreneurship education is concentrated on the improvement and growth of the skills and knowledge needed for entrepreneurs, entrepreneurship education offers courses in new business planning for example, and that helps in increasing the student's appetite for risk-taking. Moreover, entrepreneurship education is more concentrated on the attitudes, intentions, and the firm creation process (Liñán, 2008) unlike business education which provides the knowledge of administrating a business and is not focusing on creating one. This makes entrepreneurship graduates three times more expected to start a business than non-entrepreneurship graduates (Charney & Libecap, 2000). Even though business education is related to the perceived knowledge, it does not affect entrepreneurial intentions; its objective is to educate students with skills and knowledge to be employed by firms (Davidsson, 1995).

Packham et al. (2010) reveal in their study, conducted within European higher education institutions (HEIs) in France, Germany and Poland, that entrepreneurship education has a positive impact on the entrepreneurial attitude of French and Polish students, whereas the course had a negative impact on male German students. Their study further showed that while female students are more likely to perceive a greater benefit from the learning experience, the impact of entrepreneurship education on entrepreneurial attitude is actually more significant for male students. Siyanbola et al. (2012) also revealed that parents' educational qualification, entrepreneurship education and family entrepreneurial history among others influence the students' entrepreneurial interest in Nigeria. Tshikovhi and Shambare (2015) also showed that high levels of entrepreneurship knowledge have a significant impact on entrepreneurship interest among South African Enactus Students. There are more studies on positive impacts of entrepreneurship education on students' entrepreneurship interest than negative ones. So, there is need to find out what is obtainable among the MBA students in Saudi Arabia, hence the formulation of the first set of hypotheses:

- H1: Entrepreneurship course taken by the student has a positive and significant impact on entrepreneurial interest of MBA students
- H2: Entrepreneurship course which enhance the students' ability to identify an opportunity has positive and significantly impact on entrepreneurial interest of MBA students
- H3: Entrepreneurship course which enhance the students' practical managerial skills in order to start a new business has a positive and significant impact on entrepreneurial interest of MBA students

The impact that university environment has in influencing the entrepreneurial interest towards starting a new business is also trending in the recent literature. Lüthje and Franke (2003) have identified some factors that have an impact on the university environment that could influence the creation of entrepreneurial behavior. They found that perceived entrepreneurship-related barriers and support factors have a direct influence on the student's entrepreneurial intention, the more favorable the perceived support for entrepreneurship, the greater the entrepreneurial intention and vice versa. In another study by Franke and Luthje (2004), they found that students have a lower entrepreneurial intention because of the perceived undesirable activities by the university in the means of educating students with the knowledge to start a new business. Moreover, the effect of university environment to the entrepreneurial intention was higher than personality traits, attitudes, and socio-economic environmental factors. Zollo et al. (2017) found that entrepreneurial intention of students is significantly affected by the university. It has also been identified by Kraaijenbrink et al. (2009) and Saeed et al. (2015) that there are three kinds of support a university can provide to its students, those are perceived educational support, perceived concept development

support and perceived business development support, and they are important for the supportive university environment.

Recent studies such as Durst and Sedenka (2016) in Sweden, Jabeen et al. (2017) in United Arab Emirates, Shahid et al. (2017) in Pakistan and Hasan et al. (2017) in Bangladesh among others suggested that university environment where students learn plays a pivotal role in encouraging students to develop business ideas and start up their own business. This seems to help students mitigate any adverse impact that their negative perceptions that surrounds them might have on their entrepreneurial intentions (Shahid et al., 2017). The aforementioned lead to the second set of hypotheses:

- H4: The encouragement given to students to engage in entrepreneurial activities by the university environment has a positive and significant impact on the students' entrepreneurial interest
- H5: The inspiration given to students to develop ideas for new businesses by the university environment has a positive and significant impact on the students' entrepreneurial interest
- H6: Entrepreneurship knowledge which enable the students to know the actions required to start a new business learnt in the university environment has a positive and significant impact on the students' entrepreneurial interest

The apriori expectations from the six hypotheses formulated above are positive and significant impact of the factors on students' entrepreneurial interest.

3 Methodology of the study

3.1 Sample and data

The data used in this study is part of the preliminary data obtained from the on-going Masters Research thesis. This data is collected between November, 2017 and January 2018 at Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia using questionnaire adapted from different studies such as Wang and Wong (2004), Siyanbola et al. (2012), Sieger et al. (2014), Durst and Sedenka (2016) and Hasan et al. (2017). The questionnaire is designed to elicit information on the level of entrepreneurial interest of the students and the factors that could influence their interest. A representative sample was selected from the students that enrolled for Masters in Business Administration (MBA) for 2017/2018 session at the College of Business Administration, Imam Abdulrahman Bin Faisal University. MBA students are selected because they are expected to have studied entrepreneurship course at their undergraduate or during their MBA program and the entrepreneurship centre situated in this college is expected to have an impact on these students. The questionnaire was distributed to all the MBA students enrolled in that session, and 46 out of 89 students returned the properly filled questionnaire as at the period of this analysis. This represents the response rate of 51.7%.

3.2 Measurements

3.2.1 Dependent and independent variables

The purpose of the study is to investigate the factors influencing entrepreneurial interests among MBA students, and specifically this study examines the role of entrepreneurial education and university environment on entrepreneurial interest. This becomes important since the major pointer of entrepreneurship education has always been to bring to fruition the knowledge and procedures required to establish and grow a successful enterprise (Packham et al., 2010). Some studies therefore argue that the three main objectives for effective entrepreneurship education are to: develop a wide understanding of entrepreneurship, acquire an entrepreneurial mindset and how to start and operate an enterprise effectively (Chen et al., 1998; Jack and Anderson, 1999; Solomon et al., 2002; Gibb, 2005). From the foregoing, level of entrepreneurial interest of students becomes the dependent variable in the model, and is presented as categorical ordered variable and assumes the following values: 1 in the case of 'very low level', 2 in the case of 'low level', 3 in the case of 'medium level', 4 in the case of 'high level', and 5 in the case of 'very high level'.

The independent variables are measured by the following variables

1. *Entrepreneurial education* – This is measured using three proxy variables:

- i. I have taken entrepreneurship course before (X1): This explains whether the respondent has taken entrepreneurship course, and this is measured by binary response of Yes coded as 2 and No coded as 1
- ii. Entrepreneurship course has enhanced my ability to identify opportunities (X2): This explains the extent at which the respondents agree to the question of entrepreneurship course enhancing their ability to easily identify opportunities. The extent of this is measured by ordinal scale ranging from 'very low extent' to 'very high extent' (i.e 1 to 5).
- iii. Entrepreneurial course has enhanced my practical managerial skills in order to start a new business (X3): This obtains information on the extent at which entrepreneurship course that the respondent has studied has impacted on his/her managerial skills to start and operate his/her own business successfully. The extent of this is measured by ordinal scale ranging from 'very low extent' to 'very high extent' (i.e 1 to 5).

2. *University environment* – This is also measured using three proxy variables:

- i My university environment has encouraged me to engage in entrepreneurial activities (X4): This variable is sought to enquire from the MBA students the extent at which their university has encouraged them to engage in entrepreneurial activities given the availability of the entrepreneurship centres available within the university. This is also ranked in an orderly likert-scale format from ‘very low extent’ to ‘very high extent’ (i.e 1 to 5).
- ii The atmosphere at my university inspires me to develop ideas for new businesses (X5): This captures the perception of the MBA students regarding how their university environment has motivated them to generate new business ideas. Their perceptions are also ranked from ‘very low extent’ to ‘very high extent’ (i.e 1 to 5).
- iii The knowledge of entrepreneurship in my university has enabled me to know the actions I need to start my own business (X6): This is used to capture the views of the MBA students on the extent at which their entrepreneurship knowledge gained in the university has prepared them to be ready to start their own business. Their views are obtained through likert-scale format from ‘very low extent’ to ‘very high extent’ (i.e 1 to 5).

All the aforementioned independent variables are expected to have a significant and positive impact on the entrepreneurial interest level of the MBA students. This implies that each of the variables is expected to indicate its likelihood of contributing significantly to the entrepreneurial interest level of the respondents.

3.2.2 Logistic regression

Logistic (otherwise known as logit) and/ or probit regression become one of the best form of regression which is used when the perceived outcome for a dependent variable have two or more possible types. Since the outcome of the observed entrepreneurial interest is in form of five likert-scale, logistic regression is therefore adopted for this study. Logistic regression are generally used for models in which the dependent variable is an indicator of a discrete choice either binary such as a “yes or no” decision or an ordered or non-ordered decision such as Likert-scale “very low extent to very high extent” (Greene, 2003; Brooks, 2008; Akinwale et al., 2018). Logistic regression measures the relationship between a categorical dependent variable and one or more independent variables, which can be continuous or discrete.

The ordered logistic regression model allows for the prediction of the likelihood of outcome variable (entrepreneurial interest). The regression model which will be predicting the logit, that is, the log of the odds of the entrepreneurial interest, is specified as follows:

$$\text{Log (odds)} = \ln \frac{p_1 + p_2 + \dots + p_{j-1}}{1 - p_1 - p_2 - \dots - p_{j-1}} = \text{Logit } Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad 1$$

Where

- | | | |
|-------------------------|---|---|
| Y_i | = | Level of entrepreneurial interest of MBA students(Dependent variable)
1 = Very low level of entrepreneurial interest
2 = Low level of entrepreneurial interest
3 = Medium level of entrepreneurial interest
4 = High level of entrepreneurial interest
5 = Very high level of entrepreneurial interest |
| X_1 | = | I have taken entrepreneurship course before |
| X_2 | = | Entrepreneurship course has enhanced my ability to identify opportunities |
| X_3 | = | Entrepreneurial course has enhanced my practical managerial skills in order to start a new business |
| X_4 | = | My university environment has encouraged me to engage in entrepreneurial activities |
| X_5 | = | The atmosphere at my university inspires me to develop ideas for new businesses |
| X_6 | = | The knowledge of entrepreneurship in my university has enabled me to know the actions I need to start my own business |
| J | = | Number of Categories |
| $P_1 \dots P_j$ | = | Probabilities of Each Categories ($P_1 + P_2 + \dots + P_{j-1} = 1$) |
| β_0 | = | Constant |
| $\beta_1 \dots \beta_n$ | = | Coefficient of the independent variables from the first variable to the last one. |

Variables X_1 to X_3 are used to capture hypothesis 1 to 3 which are the proxies for entrepreneurship education whereas variables X_4 to X_6 are used to capture hypothesis 4 to 6 which are the proxies for university environment. This model measures the significant impact of each of the factors considered on the level of entrepreneurial interest of MBA students. The coefficients of each variable in the logistic regression model, unlike the linear regression, denote the change in the logit for each unit change in the predictor (Akinwale and Surujlal, 2017). Given that the logit is not intuitive, this study emphasises on an independent variable's effect on the exponential function of the

regression coefficient otherwise known as the odds ratio. Once the coefficient is positive, this signifies the likelihood of improving MBA students' entrepreneurial interest with a particular factor keeping other covariates at their mean. Furthermore, MacFadden- R2 (1 – the ratio of unrestricted and restricted log likelihood) is used to measure goodness of fit in logit model and this is based on the log likelihood. Though the value of the MacFadden-R2 ranges between 0 and 1 but the value is usually small, and this is because it is often the case for limited dependent variable models unlike the ordinary least square regression methods (Brooks, 2008).

4 Results and discussion

4.1 Descriptive Analysis

The survey shows that 38.1% of MBA students have a very high level of interest in starting their own business, 33.3% has a high level of interest, 11.9% has a medium level of interest while 9.5% and 7.1% have low and very low level of interest in starting their own business as shown in Table 1. This clearly shows that majority of the MBA students have entrepreneurial interest. Table 1 also reveal that majority of the MBA students at Imam Abdulrahman bin Faisal University (IAU) have their age group between 20 and 30 years. While 43.5% and 37% of the respondents are in the age bracket of 20-25 and 26-30 years respectively, 19.5% of them are above 30 years old. This implies that the MBA students are still in their youthful ages who are always ambitious to achieve their goals. Female students accounted for 70% of the respondents indicating the extent at which the female are preparing themselves for their future careers. Having higher degrees and becoming a proficient fellow in their chosen careers might be a very good chance for them to compete with their male counterparts in the labour market. Furthermore, most (67%) of the MBA students sampled are single, while 30% of them are married and 2% of them are divorced/separated/widowed. Approximately 94% of the respondents are Saudis which clearly signifies that the study reveal the perception of the Saudi Arabia citizens. Moreover, majority (85%) of the MBA students are from the eastern province, which might be as a result of the location of the university where the study is conducted.

Table 1: Descriptive analysis of the sampled MBA students

Respondent's demographics	Description	%
Level of Entrepreneurial interest	Very high	38.1
	High	33.3
	Medium	11.9
	Low	9.5
	Very low	7.1
Age (in years)	20 – 25	43.5
	26 – 30	37.0
	Above 30	19.5
Gender	Female	69.6
	Male	30.4
Marital Status	Single	67.4
	Married	30.4
	Divorced/Separated/Widowed	2.2
Nationality	Saudis	93.5
	Non-Saudis	6.5
Regional Provinces	Eastern	84.8
	Western	4.3
	Central	4.3
	Northern	2.2
	Southern	4.3

Source: Authors' own work

4.2 Correlation Analysis

Correlation is used to measure the extent and direction of relationship among various variables. In order to know whether some of the variables considered in this study are correlated with entrepreneurial interest, correlation analysis was conducted. Table 2 shows the correlation matrix between each of the variables and entrepreneurial interest. As can be seen from Table 2, all the variables are positively correlated with MBA students' entrepreneurial interest except the variable 'My university environment encourage me to engage in entrepreneurial activities' which is negatively related with entrepreneurial interest. Most of the variables in Table 2 are weakly related with entrepreneurial interest as they have correlation coefficients less than or equal 0.2, except four variables (viz: I have taken Entrepreneurship course (EC) before; EC has enhanced my ability to identify an opportunity; EC has enhanced my practical managerial skills to start a new business; and the knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business) which have moderately

strong relationship with entrepreneurial interest. Furthermore, only two variables have statistical significant correlation with entrepreneurial interest. The two variables are ‘EC has enhanced my ability to identify an opportunity’ and ‘EC has enhanced my practical managerial skills to start a new business’, and are statistically significant at 10% and 5% respectively. In order to further ascertain the relationship between the variables and solve the hypotheses formulated, logistic regression is then conducted as shown in the next sub-section.

Table 2: Correlation matrix of the MBA students’ entrepreneurial interests and the related Variables

S	Variables	1	2	3	4	5	6	7	8	9	10
1	Entrepreneurial interest	1	-	-	-	-	-	-	-	-	-
2	Parents running a business	0.22	1	-	-	-	-	-	-	-	-
3	Level of education of parents	0.10	-0.2	1	-	-	-	-	-	-	-
4	Present CGPA	0.07	0.4**	0.3	1	-	-	-	-	-	-
5	I have taken Entrepreneurship course (EC) before	0.53	0.2	0.1	0.28	1	-	-	-	-	-
6	EC has enhanced my ability to identify an opportunity	0.42*	0.2	0.2	0.26	0.4*	1	-	-	-	-
7	EC has enhanced my practical managerial skills to start a new business	0.52**	-0.1	0.2	0.3*	0.23	0.45*	1	-	-	-
8	My university environment encourage me to engage in entrepreneurial activities	-0.15	0.5**	-	0.4*	0.5*	0.24	-	1	-	-
9	The atmosphere at my university inspires me to develop new business ideas	0.05	0.2	-	0.10	0.23	0.39*	0.1	0.4**	1	-
10	The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business	0.54	-0.2	0.2	0.04	0.5**	0.21	-	0.3	0.4**	1

Source: Author’s own work. EC = Entrepreneurship course

*p < 0.10, **p < 0.05 and ***p < 0.01.

4.3 Role of entrepreneurship education and university environment on MBA students’ entrepreneurial interest:

Table 3 presents an ordered logistic regression results for MBA students’ entrepreneurial interest (Y) as dependent variable and the explanatory variables (Xn) which are the factors influencing entrepreneurial interest. The ordered logistic regression results in Table 3 show that ‘I have taken entrepreneurship course before (X1)’, ‘Entrepreneurship course has enhanced my practical managerial skills in order to start a new business (X3)’, and ‘The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business (X6)’ have significant impacts on the level of entrepreneurial interest (Yi) of MBA students at 5% level of significance. Their probability values are less than 5% level of significance (p-value < 0.05). This result is similar to the studies of Hasan et al. (2017) and Shahid et al. (2017). On the other hand, ‘Entrepreneurship course has enhanced my ability to identify opportunities (X2)’, ‘My university environment encourage me to engage in entrepreneurial activities (X4)’, and ‘The atmosphere at my university inspires me to develop new business ideas (X5)’ are not statistically significant in influencing the level of entrepreneurial interest (Yi) of MBA students at 5% level of significance. This is contrast to our expectations, but this clearly showed that there is room for improvement by the university environment. The interpretation of the coefficients of all the variables using their odd ratios show that the independent variables have great likelihood of influencing entrepreneurial interest of MBA students positively except variables related to the likelihood of developing technology capability except X4 and X5 as the odd ratio of the two variables are less than 1.

The outcomes of this model show that X1, X3 and X6 are the main factors that significantly influence entrepreneurial interest of MBA students. The entrepreneurship course taken by the MBA students greatly have impact on their level of interest in starting their own businesses. Also, the entrepreneurship course has enhanced the managerial skills of the sampled MBA students which significantly influenced their level of interest in starting their own businesses. This implies that the sampled MBA students are perceived to have the requisite managerial skills and knowledge to manage their businesses successfully which are learnt from the entrepreneurship course already taken. Furthermore, the knowledge of entrepreneurship that the sampled MBA students learnt in the university has enabled them to know the actions they need to take to start their own businesses. This indicates that these MBA students now have the knowledge of the requirements and activities to start a new business.

Table 3: Ordered Logit Regression Results for the level of MBA students' entrepreneurial interest in starting own business

Explanatory Variables	B	z-Statistic	Prob (p-value)	Odds-ratio (Exp(B))
I have taken EC before (X1)	2.19	1.98	0.03	8.94
EC has enhanced my ability to identify opportunities (X2)	0.09	0.18	0.86	1.09
EC has enhanced my practical managerial skills in order to start a new business (X3)	1.14	2.62	0.009	3.12
My university environment encourage me to engage in entrepreneurial activities (X4)	-0.5	-1.07	0.29	0.61
The atmosphere at my university inspires me to develop new business ideas (X5)	-0.1	-0.21	0.84	0.90
The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business (X6)	0.89	2.3	0.02	2.43
Pseudo R-squared	0.26			
Prob(LR statistic)	0.01			
Sample	46			

These results also reveal that entrepreneurship course undertaken by these MBA students have not been able to develop their ability to identify potential business opportunities. Moreover, the university environment has not been able to encourage and inspire the MBA students to develop new business ideas as well as engage in entrepreneurial activities. This is actually against the expectation of the study, as the authors expected that the presence of entrepreneurship centre in the College of Business of the University would have stimulated the MBA students to churned out new business ideas and encourage the development of practical entrepreneurial activities. Thus, we inferred that such entrepreneurship centre is not fully harnessed to its full potentials.

The implication of this study is very important for the academia, university administrators, policy makers and other stakeholders in the education sector. This study has revealed that offering entrepreneurship course in the university has a great influence on the level of entrepreneurial interest of MBA students. This goes a long way to develop the students' practical managerial skills to start a new business. The entrepreneurship knowledge in the university further trains the students to know the actions and steps to take to start a business. All these would enable the university to be producing a wealth creating graduates as these students would hit the market with business ideas and start their own businesses instead of contributing to the unemployment rate in the economy. The result reveal that the university environment is not doing enough to encourage students in developing practicable business ideas and engaging in real life entrepreneurship activities while in the university. Thus, the entrepreneurship centre within the universities across the country should go beyond teaching entrepreneurship but also support the students in developing business ideas and nurturing entrepreneurship activities.

5 Conclusion

This study investigates the role of entrepreneurship education and university environment on entrepreneurial interest of MBA students in Saudi Arabia. Majority (71.4%) of the MBA students claimed that they are highly interested in starting their own business in the future. The three variables that are used to proxy entrepreneurship course indicate the high likelihood of entrepreneurship course influencing the entrepreneurial interest of MBA students, though only two – 'I have taken entrepreneurship course before (X1)' and 'Entrepreneurship course has enhanced my practical managerial skills in order to start a new business (X3)' – out of the three are statistically significant. However, only one – 'The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business (X6)' – out of the three variables that are used to proxy university environment is significant and also has a great likelihood of influencing the entrepreneurial interest of MBA students.

This study therefore suggests that Saudi government should make entrepreneurship course compulsory for all field of study as it has a significant impact on the entrepreneurial interest of students. Moreover, university environment should be put on their toes especially those that have entrepreneurship centres in ensuring that the students come up with a bankable business ideas and opportunities which can be started while in school. This can be properly nurtured and monitored by the university, given the available resources at the entrepreneurship centre, to make the ideas become a full-fledged business. Government should also support such entrepreneurship centres through funds and also encourage the private companies contribute in both financial and human capability to the growth of such centre in the universities. This study contributes to the existing literature in this field of study in Saudi Arabia. This study is limited to MBA students, and further study could cover both undergraduate and MBA

as well as other fields such as engineering and sciences.

6 References

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Akinwale, Y., Akinbami, J., & Akarakiri, J. (2018). Factors influencing technology and Innovation capability in the Nigerian indigenous oil firms. *International Journal of Business Innovation and Research*, 15(2), 247-268.
- Akinwale, Y. and Surujlal, J. (2017). A techno-economic policy framework to enhance the contribution of marginal oil and gas field to Nigeria's economic growth: a petroleum innovation system approach. *International Journal of Economics and Finance Studies*, 9(1), 132-147.
- Aruwa, S.A.S. (2004). The business entrepreneur: a guide to entrepreneurial development. *Journal of Development of Business Administration*, 2 (1),112-122.
- Barak, M. (2012). Distance education: towards an organizational and cultural change in higher education. *Journal of Enterprising Communities: People and Places in the Global Economy*, 6(2), 124-137.
- Béchar, J.P. and Grégoire, D. (2005). Entrepreneurship education research revisited: the case of higher education. *Academy of Management Learning & Education*, 4 (1), 22- 43.
- Brooks, C. (2008). *Introductory Econometrics for Finance*, 2nd ed., Cambridge University Press, London.
- Brown, P. (2003). The opportunity trap: education and employment in a global economy. *European Educational Research Journal*, 2 (1), 141-179.
- Burleson, W. (2005). Developing creativity, motivation, and self-actualization with learning systems. *International Journal of Human-Computer Studies*, 63 (4),436-451.
- Cathy, A. (2005). Entrepreneurship means change, in Cathy Ashmore (Ed.), *The Consortium for Entrepreneurship Education*, Columbus, OH, Entrepreneurship Teaching Materials, Transparency Masters for the Classroom.
- Charney, A. & Libecap, G. (2000). *Impact of entrepreneurship education*. Kansas City, MO: Kauffman Center for Entrepreneurial Leadership.
- Chen, C.A., Greene, P.G. and Crick, A. (1998). Does entrepreneurial efficacy distinguish entrepreneurs from managers?. *Journal of Business Venturing*, 13(4), 295-316.
- Dahleez, K.A. (2009). The role of business incubators in developing entrepreneurship and creating new business start-ups in Gaza strip. doctoral dissertation, The Islamic University, Gaza.
- Davidsson, P. (1995). *Determinants of entrepreneurial intentions*. Working paper. Jönköping, Sweden: Jönköping International Business School.
- Dickson, P.H., Solomon, G.T. and Weaver, K.M. (2008). Entrepreneurial selection and success: does education matter?. *Journal of Small Business and Enterprise Development*, 15 (2), 239-258.
- Do Paço, A., Ferreira, J.M., Raposo, M., Rodrigues, R.G. and Dinis, A. (2015). Entrepreneurial intentions: is education enough?. *International Entrepreneurship and Management Journal*,11(1), 57-75.
- Durst, S. and Sedenka, J. (2016). Entrepreneurial Intentions and Behaviour of Students attending Swedish Universities. Global University Entrepreneurial Spirit Students' Survey 2016. National Report Sweden. Skövde: University of Skövde.
- Fayolle, A. and Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75-93.
- Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programs: a new methodology. *Journal of European Industrial Training*, 30 (9), 701-720.
- Franke, N., & Lüthje, C. (2004). Entrepreneurial intentions of business students—A benchmarking study. *International Journal of Innovation and Technology Management*, 1(03), 269–288.
- Gibb, A. (2005). Towards the entrepreneurial university: entrepreneurship education as a lever for change, *policy paper, National Council for Graduate Entrepreneurship*, Birmingham, 3 May.
- Gorman, G., Hanlon, D., King, W., (1997). Some research perspectives on entrepreneurship education and education for small business management: a ten-year literature review. *International Small Business Journal* 15 (3), 56–77.
- Greene, W. (2003) *Econometric Analysis*, 5th edition, *Pearson Education Inc.*, Upper Saddle River, New Jersey. Chapter 21, 663-743.
- Grey, C. (2002). What are business schools for? On silence and voice in management education. *Journal of Management Education*, 26(5), 496–511.
- Guerrero, M., Rialp, J. and Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: a structural equation model. *International Entrepreneurship Management Journal*, 4 (1), 35-50.
- Hansemark, O.C. (1998). The effects of an entrepreneurship programme on need for achievement and locus of control of reinforcement. *International Journal of Entrepreneurial Behavior & Research*,4(1), 28-50.
- Harry Matlay, P. and Dehghanpour Farashah, A. (2013). The process of impact of entrepreneurship education and

- training on entrepreneurship perception and intention: study of educational system of Iran. *Education+ Training*, 55 (8/9), 868-885.
- Hasan, SK., Khan, E. and Nabi, Md. (2017). Entrepreneurial education at university level and entrepreneurship development. *Education + Training*, 59(7/8), 888-906.
- Holmgren, C., From, J., Olofsson, A. and Karlsson, H. (2004). Entrepreneurship education: salvation or damnation?. *International Journal of Entrepreneurship*, 8 (1), 55-71.
- Iakovleva, T., Kolvereid, L. and Stephan, U. (2011). Entrepreneurial intentions in developing and developed countries. *Education and Training*, 53 (5), 353-370.
- Jabeen, F., Faisal, M. & Katsioloudes, M. (2017). Entrepreneurial mindset and role of universities as strategic drivers of entrepreneurship: Evidence from UAE. *Journal of Small Business and Enterprise Development*, 24(1), 136-157
- Jack, S. and Anderson, A. (1999). Entrepreneurial education within the enterprise culture. *International Journal of Entrepreneurial Behaviour & Research*, 5 (3), 110-25.
- Karlan, D. and Valdivia, M. (2006). Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. *The Review of Economics and Statistics*, 93(2), 510-527.
- Katz, J.A. (2008). Fully mature but not fully legitimate: a different perspective on the state of entrepreneurship education. *Journal of Small Business Management*, 46 (4), 550- 566.
- Keat, Y. and Ahmad, O.S. (2012). A study among university students in business start-ups in Malaysia: motivations and obstacles to become entrepreneurs. *International Journal of Business and Social Science*, 3(19),181-192.
- Korunka, C., Kessler, A., Frank, H. and Lueger, M. (2010). Personal characteristics, resources, and environment as predictors of business survival. *Journal of Occupational and Organizational Psychology*, 83(4), 1025-1051.
- Kourilsky, M.L., Walstad, W.B., (1998). Entrepreneurship and female youth: knowledge, attitudes, gender differences, and educational practices. *Journal of Business Venturing*, 13 (1), 77-88.
- Kraaijenbrink, J., Bos, G., & Groen, A. (2009). What do students think of the entrepreneurial support given by their universities?. *International Journal of Entrepreneurship and Small Business*, 9(1), 110-125.
- Krueger, N.F. (2009). Entrepreneurial intentions are dead: long live entrepreneurial intentions. in Carsrud, A.L. and Brännback, M. (Eds), *Understanding the Entrepreneurial Mind. International Studies in Entrepreneurship*, 24. Springer, New York, NY.
- Krueger, N.F. and Carsrud, A.L. (1993). Entrepreneurial intentions: applying the theory of planned behaviour. *Entrepreneurship & Regional Development: An International Journal*, 5 (4), 315-330.
- Krueger, N.F., Reilly, M.D. and Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15 (5/6), 411-432.
- Kwiek, M. (2012). Universities, regional development and economic competitiveness: the polish case, in Pinheiro, R., Benneworth, P. and Jones, G.A. (Eds), *Universities and Regional Development: A Critical Assessment of Tensions and Contradictions*. New York: Routledge. 69-85.
- Lee, S.H. and Wong, P.K. (2004). An exploratory study of technopreneurial intentions: a career anchor perspective. *Journal of Business Venturing*, 19 (1), 7-28.
- Lena, L., & Wong, P. K. (2003). Attitude towards entrepreneurship education and new venture creation. *Journal of Enterprising Culture*, 11(4), 339-357.
- Liñán, F. (2008). Skill and value perceptions: How do they affect entrepreneurial intentions?. *International Entrepreneurship and Management Journal*, 4(3), 257- 272.
- Liñán, F. and Chen, Y.W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship: Theory & Practice*, 33(3), 593-617.
- Lüthje, C., & Franke, N. (2003). The making of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, 33(2), 135-147.
- Mahadea, D., Ramroop, S. and Zewotir, T. (2011). Assessing entrepreneurship perceptions of high school learners in Pietermaritzburg, Kwazulu-Natal. *South African Journal of Economics and Management Science*, 14(1), 66-79.
- Martin, B.C., MacNally, J.J. and Kay, M.J. (2012). Examining the formation of human capital in entrepreneurship: a meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28, 211-224.
- Mentoor, E.R. and Friedrich, C. (2007). Is entrepreneurial education at South African universities successful? An empirical example. *Industry and Higher Education*, 21(3), 221-232.
- Minniti, M. and Lévesque, M. (2008). Recent developments in the economics of entrepreneurship. *Journal of Business Venturing*, 23 (6), 603-612.
- Muhammad, A., Akbar, S. and Dalziel, M. (2011). The journey to develop educated entrepreneurs: prospects and problems of Afghan businessmen. *Education + Training*, 53(5), 433-447.
- Müller, S. (2011). Increasing entrepreneurial intention: effective entrepreneurship course characteristics. *International Journal of Entrepreneurship and Small Business*, 13(1), 55-74.

- Okorafor, P. and Okorafor, A. (2011). Reappraising technical and vocational education and training (TVET) for functionality and self-reliance. *Journal of Qualitative Education*, 7 (1), 80-87.
- Ollila, S. and Williams-Middleton, K. (2011). The venture creation approach: integrating entrepreneurial education and incubation at the university. *International Journal of Entrepreneurship and Innovation Management*, 13(2),161-178.
- Oosterbeek, H., van Praag, M.C. and IJsselstein, A. (2010). The impact entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54,442-454.
- Packham, G., Jones, P., Miller, C., Pickernell, D. and Thomas, B. (2010). Attitudes towards entrepreneurship education: a comparative analysis. *Education + Training*, 52, (8/9), 568- 586
- Peterman, N.E. and Kennedy, J. (2003). Enterprise education: influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2),129- 144.
- Pittaway, L. and Cope, J. (2007). Entrepreneurship education. *International Small Business Journal*, 25 (5), 479-510.
- Raposo, M.L.B., Ferreira, J.J.M., do Paço, A.M.F. and Rodrigues, R.J.G. (2008). Propensity to firm creation: empirical research using structural equations. *International Entrepreneurship and Management Journal*, 4(4), 485-504.
- Saks, A.M. and Ashforth, B.E. (2002). Is job search related to employment quality? It all depends on the fit. *Journal of Applied Psychology*, 87 (4), 646-654.
- Sánchez, J.C. (2009). Social learning and entrepreneurial intentions: a comparative study between Mexico, Spain and Portugal. *Revista Latinoamericana de Psicología*, 41(1), 109-119.
- Sánchez, J.C. (2011). University training for entrepreneurial competencies: its impact on intention of venture creation. *International Entrepreneurship and Management Journal*, 7 (2), 239-254.
- Sánchez, J.C. (2013). The impact of an entrepreneurship education program on entrepreneurial competencies and intention. *Journal of Small Business Management*, 51(3), 447-465.
- Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A Meta- Analytic test and integration of competing models. *Entrepreneurship Theory and Practice*, 38(2), 291-332. 10.1111/etap.12087
- Shahid, M., Imran, Y. and Shehryar, H. (2017). Determinants of entrepreneurial intentions: an institutional embeddedness perspective. *Journal of Small Business and Entrepreneurship*.
- Sine, W.D. and Lee, B.H. (2009). Tilting at windmills? The environmental movement and the emergence of the US wind energy sector. *Administrative Science Quarterly*, 54, 123-155.
- Sieger, P., Fueglistaller, U., & Zellweger, T. (2014). *Student Entrepreneurship Across the Globe: A Look at Intentions and Activities*. St.Gallen: Swiss Research Institute of Small Business and Entrepreneurship at the University of St.Gallen (KMU-HSG).
- Siyanbola, W., Afolabi, O., Jesuleye, O., Egbetokun, A., Dada, A., Aderemi, H., Sanni, M., & Rasaq, M. (2012). Determinants of entrepreneurial propensity of Nigerian undergraduates: an empirical assessment. *International Journal of Business Environment*, 5(1), 1-29.
- Slavtchev, V., Laspita, S., & Patzelt, H. (2012). Effects of entrepreneurship education at universities. *Jena Economic Research Papers*, 25, 1–33.
- Solomon, G., Duffy, S. and Tarabishy, A. (2002). The state of entrepreneurship education in the United States: a nationwide survey and analysis. *International Journal of Entrepreneurship Education*, 1 (1), 65-86.
- Souitaris, V., Zerbinati, S. and Al-Laham, A. (2007). Do entrepreneurship programs raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22 (4), 566-591.
- Souitaris, V., Zerbinati, S. and Al-Laham, A. (2007). Do entrepreneurship programs raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22 (4), 566-591.
- Spiteri, S. and Maringe, F. (2014). EU entrepreneurial learning: perspectives of university students. *Journal of Enterprising Communities: People and Places in the Global Economy*, 8(1),51-70.
- Taatila, V.P. (2010). Learning entrepreneurship in higher education. *Education + Training*, Vol. 52(1), 48-61.
- Tshikovhi, N., and Shambare, R. (2015). Entrepreneurial knowledge, personal attitudes, and entrepreneurship intentions among South African Enactus students. *Problems and Perspectives in Management*, 13(1), 152-158.
- Van der Sijde, P., Ridder, A., Blaauw, G. and Diensberg, C. (2008), *Teaching Entrepreneurship: Cases for Education and Training*, Springer Science & Business Media, Berlin.
- Varblane, U. and Mets, T. (2010). Entrepreneurship education in the higher education institutions (HEIs) of post-communist European countries. *Journal of Enterprising Communities: People and Places in the Global Economy*, 4(3), 204-219.
- Zamberi, A.S. (2013). The need for inclusion of entrepreneurship education in Malaysia lower and higher learning institutions. *Education + Training*, 55 (2),191-203.

-
- Zhang, Y., Duysters, G. and Cloudt, M. (2014). The role of entrepreneurship education as a predictor of university students entrepreneurial intention. *International Entrepreneurship and Management Journal*, 10(3), 623-641.
- Zollo, L., Laudano, M. C., Ciappei, C., & Zampi, V. (2017). Factors affecting universities' ability to foster students' entrepreneurial behavior: An empirical investigation. *Journal of Management Development*, 36(2), 268–285.