STRUCTURAL EQUATION MODEL ANALYSIS OF FACTORS INFLUENCING ENTREPRENEURIAL INTEREST AMONG UNIVERSITY STUDENTS IN SAUDI ARABIA

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ABSTRACT

Reduction of unemployment for the young Saudis is one of the major targets of the government in Saudi Vision 2030, and entrepreneurship has been recognized as one of the ways to influence business start-ups which then generates employment and sustainable growth. This study examines students' entrepreneurial interest within the context of the theory of planned behaviour. A survey was conducted from public and private universities in the eastern province of Saudi Arabia using multi-stage sampling technique whereby 743 questionnaires were retrieved. The results of the study using correlation analysis revealed that demographic factors, specifically age, present level of study, parent's background in business, and succession factor in parents business have positive and significant relations with the student's entrepreneurial interest. A structural equation model analysis further revealed that social norm has positive and significant influence on student entrepreneurial interest; student attitude toward behaviour has a direct and indirect positive and significant influence on entrepreneurial interest; whereas selfefficacy and university environment have positive and insignificant influence on entrepreneurial interest. There is a need for the government to create more awareness and support for entrepreneurship as well as challenging the universities to improve the level of formal enterprise education given the students by providing the academic and the business supports to generate ideas, start and nurture a new business in the entrepreneurship centre within the university.

Keywords: Education, Entrepreneurship, Employment, Entrepreneurial Interest.

INTRODUCTION

It is well documented that entrepreneurship is considered as one of the great answers to economic development as it provides jobs, generates income, in addition to being a path for innovation, economic efficiency, and social prosperity. Entrepreneurship has developed greatly since Schumpeter (1934) identified its advantages in creating employment opportunities and the growth of the society. Goel et al. (2007) argues that entrepreneurship and entrepreneurs are major elements of the society. Small and medium enterprises (SMEs) are continually gaining interest for the benefits they provide the community as they turn new ideas into successful businesses that generates profit (Turker & Selcuk, 2009; Akinwale, 2018). Entrepreneurial

activities motivate innovation, provides technological developments as well as the international competition, hence encourage entrepreneurship (Ahmad, 2010; Mahmud et al., 2019). Many nations especially the European countries have utilized entrepreneurship to grow their economies, and this has also been identified by emerging and developing nations as a strategy which could enable them to solve their unemployment problems as well as revitalizing their economies to become competitive in a globalized market (Osakede et al., 2017). This warrants an increasing trend in which entrepreneurship is being studied in the domain of academic circles.

In the past decades, entrepreneurship intention has been gaining popularity since Icek Ajzen presented the Theory of Planned Behavior (Bachiri, 2016). Business creation is considered as a planned behavior, meanwhile intentions and attitudes could help in predicting that behavior; hence, entrepreneurial intention is an indicator of future entrepreneurial behavior (Krueger Jr & Reilly, 2000). Understanding the entrepreneurial intention is important as it is a major part of entrepreneurship research that helps researchers to better understand the entrepreneurial process (Krueger & Carsrud, 1993). Historically in entrepreneurship literature, the focus was on entrepreneur's personalities and how their traits can influence the decision-making processes (Johnson, 1990). Nevertheless, Wennekers & Thurik (1999) argue that entrepreneur's personality and traits could not be secluded from the environment and economy that contain the entrepreneur. Diversification of the economy away from the over reliance on fossil fuel and reduction of unemployment among the citizens are part of the major premises on which the Saudi Arabian government vision 2030 rest on. Thus, fostering the culture of entrepreneurship among the Citizens would go a long way to achieve this vision. As large percentage of Saudis are at their youthful age attending secondary and tertiary institutions. Among the goals of Saudi's vision 2030 is reducing the Saudi's unemployment rate to reach 7% or less from the present 12.9%, double the GDP and raise the share of non-oil exports in non-oil GDP from 16% to 50%, create as much as six million jobs by year 2030 and achieve a higher-level household income and increasing the contribution of small and medium enterprises to the GDP from the current 20% to 35% (Saudi Vision 2030 document, 2016). Unemployment is a fundamental economic problem in any nation, and Saudi Arabia's rate of unemployment is continually increasing as large numbers of Saudi graduates are unable to secure employment. However, these goals provide the opportunity for entrepreneurs to contribute to the success of the strategic vision 2030 of Saudi Arabia.

Saudi Arabia General Authority of Statistics states that the unemployment rate for Saudis in the first quarter of 2018 was 12.9%, whereby the number of Saudi job seeker increased by 165,610 individuals in the first quarter of 2018 compared to the same period in the first quarter of 2017. In addition, 37% of Saudi job seekers were in the age group of 25-29, and approximately half (53.8%) of Saudi job seekers hold a university degree (Saudi General Authority for Statistics, 2018). Saudi Arabia targets investment of approximately \$4 trillion in different sectors, which are petrochemicals, mining and metals, manufacturing, tourism and hospitality, retail and wholesale trade, healthcare, finance, and construction; meanwhile these sectors have the possibility of generating over 60% of the growth opportunity (Al-Kibsi et al., 2015). There are opportunities for Saudis' entrepreneurs in all these aforementioned sectors.

It has been argued that understanding the entrepreneurial intention and realizing the elements that have an impact on it is crucial to achieve a sustainable economic development (Yıldırım et al., 2016). Moreover, discovering the factors that affect entrepreneurial intention is a contentious issue in entrepreneurship research. While numerous studies explored different factors in differing countries, none of those studies has been conducted in eastern province,

which is one of the main business provinces, of Saudi Arabia. Therefore, based on the vision 2030 of Saudi government along with the shortage of such studies in this area, there is a need to explore the factors that influences entrepreneurial intention among university students in postgraduate and undergraduate levels in Dammam, Saudi Arabia. Investigating the entrepreneurial interests of the university students would enable the policymakers and the government to make evidence based policies and programs designed to enable them to convert their ideas into commercialized businesses which would reduce unemployment in the long-run. Hence, this research contributes to the body of existing entrepreneurship literature and fills the gap in Saudi Arabia.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This section provides the theoretical framework and empirical studies underpinning the research.

Theoretical Framework

This study adopts theory of planned behavior (TPB) as propounded by Ajzen (1991) and Fischbein & Ajzen (1975), whereby entrepreneurial intention is influenced by three factors, viz: attitudes, subjective norms and perceived behavioral controls as shown in Figure 1.



FIGURE 1 THEORY OF PLANNED BEHAVIOR (TPB) (AJZEN, 1991)

The TPB framework in Figure 1 is based on the person's intention, which is determined by three elements: First, the degree of favorableness of the behavior whether it has favorable or non-favorable perceived evaluation (attitude). In general, the more favorable of an attitude toward a behavior, the greater the individual's intention to perform it. The second is the perceived social norms to perform the given behavior or not (subjective norm). Suppose an individual perceives that his or her loved ones likes (or dislikes) the behavior, he or she is more (or less) likely to want to do it. Therefore, subjective norms measure the effect of perceived social pressure from family, friends and/or relatives. In the context of subjective norms in TPB, Linan (2008) asserts that the role of the community in encouraging entrepreneurial behavior allows the individuals to be more motivated towards entrepreneurship in communities that accepts their choice. Lastly, perceived behavioral control (PBC) or self-efficacy refers to the degree of difficulty of performing a behavior, which is how easy or difficult to perform certain action (Ajzen, 1991). According to Wilson et al. (2007), *"self-efficacy, or self-confidence, is based on individuals' perceptions of their skills and abilities"*. It was identified by Gist (1987) as an individual's view of him or her capability to perform a specific task.

Entrepreneurial interest in this study can be defined as the intention of an individual to start a new business. Intention plays a major role in predicting the behavior, and Theory of Planned Behavior has been used to measure entrepreneurship interest (Batool et al., 2015).

Empirical Literature

Entrepreneurship plays a critical role in developing economic growth, innovation and competitiveness for many countries (Siyanbola et al., 2012; Kuratko and Hodgetts, 2004). Entrepreneur is a creative and innovative person who thinks of any problem in his/her community as an opportunity to meet peoples' needs and generate income from it. Thus, entrepreneurial intentions are the individual's plans and actions to start a new business venture (Ababtain & Akinwale, 2019). Various studies reveal that impartation of entrepreneurial culture in undergraduates is a viable strategy for reducing the gap between the graduation year and employment.

Tshikovhi & Shambare (2015) investigated the factors that influenced the entrepreneurial intentions of 355 Eractus South African students, and their results showed that both entrepreneurial knowledge and personal attitudes have significant influence on entrepreneurship intentions. Self-efficacy of students, which is the strength to believe in oneself to successfully performing an entrepreneurial roles and tasks, has been examined to have influential impacts on entrepreneurial intentions and behaviours (Lope Pihie & Bagheri, 2011; Wilson et al., 2007). Moreover, Stella (2008) found that the family and community's background among British, Indian and Chinese students, influences the view towards entrepreneurship. The study of Siyanbola et al. (2012) conducted among the Nigerian university students found that the entrepreneurial interest is significantly predicted by a number of factors, which are family entrepreneurial background, parents education, student's entrepreneurial history, and family and student's socio-demographics like gender, the father's income per month, and entrepreneurship education.

Batool et al. (2015) investigated entrepreneurial intention among 2420 students of public and private universities in Pakistan, and the results confirmed that attitude, self-efficacy, personal control and innovativeness have a significant positive relationship with the entrepreneurial intention of the students surveyed.

Roy et al. (2017) surveyed 476 young Science & Technology graduates at Indian Institute of Technology (IITs), and their results using structural equation modeling revealed that positive attitude toward entrepreneurship backed by entrepreneurial knowledge and the presence of practicable entrepreneurial career option have significant impact on entrepreneurial intention. The results further showed that self-efficacy and entrepreneurial personality traits have positive impact on entrepreneurial intention.

Ozaralli & Rivenburgh (2016) conducted a survey among 589 junior and senior students at two universities, one of them is American and the other is a Turkish university. It was stated in their research that even though both U.S. and Turkish students' personal attitudes toward becoming entrepreneurs were high, they had somewhat weak intention to start their own new

business. The findings also revealed that parents with successful businesses are important factors in enhancing the entrepreneurial intention for both the U.S. and Turkish students. Their study supports the positive relation between entrepreneurial intentions and subjective norms, attitudes, and perceived behaviour control.

del Río et al. (2016) carried out a study on entrepreneurial intentions and entrepreneurship education among one hundred and sixty university students of Tourism degree of the Superior Institute of Accounting and Management of Porto in Portugal. The results indicated that the university students have a high positive perception toward the desire and intention to create their own business. The results also showed that they are in need of an entrepreneurial subject to provide the basic tools to become entrepreneurs, and the university should encourage entrepreneurship as the knowledge and skills they obtain are not sufficient to start their own ventures. Osakede et al. (2017) conducted a survey on 250 undergraduate students at University of Ibadan in Nigeria. The results using logistic regression revealed that family business background, perceived behavioural control, subjective norm, age, ethnic group and income significantly predict students' entrepreneurial interest. Researcher found that European students' entrepreneurial intentions is positively affected by age, attitude toward the behaviour and perceived behavoural control, but social norms had no noticeable effect on the entrepreneurial intention. Also, Bachiri (2016) found that the attitude toward entrepreneurship and perceived behavioural control have positive influence on Moroccan students' entrepreneurial intention, whereas subjective norms did not have a significant impact on Moroccan students' entrepreneurial intention.

Choukir et al. (2017) stated in their research about freshmen students' entrepreneurial intentions in the College of Economics and Administrative Sciences (CEAS) at Al-Imam Mohammad bin Saud Islamic University (IMSIU) that the attitudes toward the behaviour, perceived behavioural control, and subjective norms have significant positive impact on the entrepreneurial intention of the freshmen students. The study also showed that having parents, relatives, and friends, who are entrepreneurs significantly influences the entrepreneurial intentions. In Turkey, a study was conducted among 229 trainees by Bahadir & Çakmak (2018) and their research using regression analysis support the influence of attitudes toward the behavior, self-efficacy, perceived entrepreneurial control, and subjective norms on the trainees' entrepreneurial intentions.

Zollo et al. (2017) argue that the university environment has a significant impact on the student's entrepreneurial intention in Italy. Many researchers have also examined how university environment directly and indirectly influences the entrepreneurial intention of students through attitudes and self-efficacy, hence suggested that students are positively affected by a supportive university environment where they learn as it aspires them to come up with new business ideas and helps them in starting their new ventures (Saeed et al., 2015; Durst & Sedenka, 2016; Hasan et al., 2017; Jabeen et al., 2017; Shahid et al., 2018). The literature has shown differing factors influencing entrepreneurial interests among the students in different countries. This study will be contributing to the existing literature by investigating the factors which influence that of the students in Eastern province of Saudi Arabia with a view of making policy suggestions.

Based on the empirical literature presented, the following hypotheses are formulated:

H1: The demographic factors have positive and significant relations with student entrepreneurial interests.

H2: Social norms has a direct positive and significant effect on student entrepreneurial interests.

H3a: Attitudes towards behaviour has a direct positive and significant effect on student entrepreneurial interests.

H3b: Attitudes towards behaviour through university environment has a positive and significant effect on student entrepreneurial interests.

H4a: Self-efficacy has a direct positive and significant influence on student entrepreneurial interests.

H4b: Self-efficacy through university environment has a positive and significant influence on student entrepreneurial interests.

H5: University environment has a direct positive and significant influence on student entrepreneurial interests.

METHODOLOGY FOR THE STUDY

This section discusses the sampling procedures, data measurement and research methods.

Sampling Procedure and Size

A representative sample was selected from both male and female sections of the College of Business Administration (CBA) at Imam Abdulrahman Bin Faisal University (Public university) and Prince Muhammad Bin Fahd University (Private university) in eastern province of Saudi Arabia. Multistage sampling technique was adopted for choosing the sample. Firstly, students from CBA were purposively selected, followed by the stratified sampling technique whereby the students were divided into 5 strata which include year 1,2,3,4 and MBA. Afterwards, random sampling technique was adopted whereby the questionnaires were given randomly to students in CBA without having any specific student in mind in the selected strata.

Due to the unknown population of the students in the CBA of the two universities, the study adopted the following equation to determine the adequate sample as suggested by Cochran (1963).

$$n_0 = \frac{(Z \ score)^2(std \ deviation)(1-std \ deviation)}{(margin \ of \ error)^2} \qquad \dots (1)$$
$$n_0 = \frac{Z^2(p)(1-p)}{C^2} \qquad \dots (2)$$

Where,

Z: Standard normal deviation of 95% confidence level (1.96), or 99% confidence level (2.326) based on what the researcher decides to use.

P: Percentage of picking a choice or response which is usually 50%.

C: Confidence interval which is usually 0.05.

Moreover, the commonly used determinant of sample size is 95% confidence level; however, using 99% level of confidence is believed to provide a more accurate result. Therefore, the number of respondents needed is calculated using this equation:

$$n_0 = \frac{2.326^2(0.5)(0.5)}{(0.05)^2} = 541$$
 respondents ... (3)

The results show that having 541 respondents would be appropriate and sufficient for the study. However, in the process of collecting data through the online and physical distribution of questionnaires, 743 responses were obtained from the two universities.

Construct Measurement

This study adapted certain constructs obtained from the literature to measure the influencing factors considered in this study. 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'*. Furthermore, all the constructs for all other factors are also captured using the categorical order (likert-scale) aforementioned and they are stated in Table 3.

Method

This study analyzes the factors influencing the students' entrepreneurial interest under the purview of the theory of planned behavior using structural equation model (SEM). Structural Equation Modeling is generally known for its strength of theory testing and ascertains the sequential relationships between different series of factors which represent endogenous and exogenous variables in the model. There are 19 constructs used in this study after removing some questions subsequent to the initial pilot tests and expert opinions.

ANALYSIS OF RESULTS

This section presents and discusses the results of the survey conducted among the students.

Descriptive Analysis

The demographic data of the sampled students is described in Table 1. Most (56%) of the students fall within the ages 21-25 years, 34% of students fall between 15 and 20, 7.2% of students fall within the age of 26-30 years, and only (2.8%) are above 30 years. This means that the majority of students fall between the ages 15-25 years, which actually captures the average age of students in Saudi Arabia. In addition, Table 1 reveals that approximately 70% of the respondents are females while 30% are males, this might be as a result of high number of female students in the College of Business of the two universities. Table 1 further shows information on the extent at which students are interested in starting a new business, and 30.1% claim they have a very high interest, 29.8% claim they have moderate extent, 25.8% claim they have high interest, 10.3% claim they have low interest, and the least 4% claim they have a very low interest. This indicates an average of 86% of the respondents having a moderate and high extent of starting a new business.

| Table 1 DEMOGRAPHIC DATA | | | | | | |
|--------------------------------------------------------|-------------|-------|--|--|--|--|
| Respondents' information | Description | % | | | | |
| | 15-20 | 34 | | | | |
| | 21-25 | 56 | | | | |
| Age (in years) | 26-30 | 7.2 | | | | |
| | Above 30 | 2.8 | | | | |
| | Total | 100 | | | | |
| | Female | 70.2 | | | | |
| Gender | Male | 29.8 | | | | |
| | Total | 100 | | | | |
| | Very high | 30.10 | | | | |
| Students' Level of Interest in Starting a New Business | High | 25.80 | | | | |
| | Medium | 29.80 | | | | |
| | Low | 10.30 | | | | |
| | Very Low | 4.0 | | | | |
| | Total | 1000 | | | | |

Table 2 reveals the direction of relationship between entrepreneurial interest and some demographic factors of the students. While Age, Present level of study, Parents background in business, and Succession factor in parents business have positive relations with entrepreneurial interest which is similar to the results of few studies (Ozaralli & Rivenburgh, 2016); CGPA has negative relation with entrepreneurial interest (Shahid et al., 2018; Mohamad et al., 2014). These results support hypothesis 1 which states that demographic factors have positive relationship with students' entrepreneurial interest except in the case of CGPA which is negatively related to entrepreneurial interest. All the factors are also statistically significant in influencing student entrepreneurial interest except CGPA. This implied that senior level students who are older as well as students whose parents are into a particular business and have intention to take up the business of their parents have higher level of interest in starting their own businesses. On the other hand, students with higher CGPA have low interests in starting their own businesses which might be as a result of many of those students with higher CGPA thinking of working in companies as professionals in their field of study.

| Table 2 CORRELATION MATRIX OF SELECTED DEMOGRAPHIC FEATURES IN RELATION TO ENTREPRENEURIAL INTEREST | | | | | | |
|---------------------------------------------------------------------------------------------------------|--------------|----------|-------------|---------|-------|---|
| Variables | 1 | 2 | 3 | 4 | 5 | 6 |
| Level of interest in starting a new business | 1 | - | - | - | | |
| Age | 0.617^{**} | 1 | - | - | | |
| Present level of study | 0.021** | 0.521** | 1 | - | | |
| Present CGPA | -0.112 | -0.212** | -0.153** | 1 | | |
| Parents background in business | 0.243** | 0.171 | 0.078^{*} | 0.261** | 1 | |
| Succession factor in parents business | 0.316** | 0.213 | 0.122 | 0.034 | 0.515 | 1 |

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Analysis of the Structural Equation Modelling

The model was firstly estimated using factor analysis (FA) so as to ascertain the reliability and validity of the constructs used in the model. FA test the unidimensionality of multi-item constructs and to eliminate unreliable items such as those ones loaded on multiple constructs as well as those which their loadings are very low (Hair et al., 2010).

Table 3 specifies that out of 19 constructs considered to in the questionnaire, 17 constructs explained 66% of the total variance of the dataset. The principal component analysis was performed using Oblimin with Kaiser Normalisation rotation to group the factors and led to the extraction of four factors with eigen value higher than 1.0, which are used to analyse the variables influencing the student entrepreneurial interest (Akinwale, 2018). This will further enhance the understanding of the patterns of relationships among the factors. The sampling adequacy was measure by Kaiser-Meyer-Olkin (KMO) and Bartlett's test, and the results revealed that KMO index is 0.881 which signifies that the sample size is adequate because the value is greater than benchmark of 0.6, and Bartlett's test of Sphericity is also significant at p<0.001 illustrating that there is a minimum of two of the variables which are intercorrelated.

Any construct with cronbach's alpha value and factor loading less than 0.7 and 0.6 respectively is due for removal so as to eliminate unreliable and low loading factors from the model (Akinwale, 2018). The results of the 17 retained items are presented in Table 3, after which a structural equilibrium model was conducted to test the structural relationship among the factors influencing student entrepreneurial interest using AMOS 25 statistical package.

| Table 3 CRONBACH'S ALPHA AND WEIGHTS OF THE RELEVANT FACTORS AND CONSTRUCTS | | | | | |
|----------------------------------------------------------------------------------|------------------|-------------------|--|--|--|
| Factors and constructs | Cronbach's alpha | Factor loading | | | |
| Entrepreneurial interest | 0.81 | | | | |
| I am ready to do anything to be an entrepreneur | | 0.73 | | | |
| I will make every effort to start and run my own business | | 0.813 | | | |
| I am determined to create a business venture in the future | | 0.759 | | | |
| I have a very low intention of ever starting a business | | 0.703 | | | |
| Social Norms | 0.74 | | | | |
| I am confident that my family and siblings will support me if I start a business | | 0.724 | | | |
| I am confident that my friends will support me if I start a business | | 0.673 | | | |
| Nobody will support me if I start a business of my own (Reversely coded) | | 0.77 | | | |
| Attitudes towards behaviour | 0.75 | | | | |
| My professional goal is to be an entrepreneur | | 0.795 | | | |
| A career as an entrepreneur is totally unattractive to me (Reversely coded) | | 0.698 | | | |
| Being an entrepreneur implies more advantages than disadvantages to me | | 0.758 | | | |
| Self-efficacy | 0.72 | | | | |
| Starting a firm and keeping it viable would be easy for me | | 0.796 | | | |
| I am confident I have all the necessary skills to start a business | | 0.719 | | | |
| Starting a business by myself is a great opportunity for success | | 0.668 | | | |
| I believe I could operate a successful small business | | 0.699 | | | |

| University context | 0.78 | |
|----------------------------------------------------------------------------------------------------------------------------------|------|-------|
| At my University, students are encouraged to engage in entrepreneurial activities | | 0.778 |
| The atmosphere at my university inspires me to develop ideas for new businesses | | 0.681 |
| The knowledge of entrepreneurship in my university has enabled me to know the actions I need to take to start my own business | | 0.819 |

The result of the model fit for the data analysed in structural equilibrium model is presented in Table 4. The result revealed that the P-value of the chi-square (χ^2) is 0.15 which signifies the non-significance of the chi-square which was the expected outcome for model fit. Also, goodness of fit index (GFI) and normalised fit index (NFI) are 0.93 and 0.91 respectively which are above the 0.9 minimum limit required, whereas root mean square error approximation (RMSEA) is 0.032 which is also required to be lower than 0.5, all these justified a good model fit.

| Table 4 RESULTS OF THE MODEL FIT INDICES | | | | | |
|--------------------------------------------|--------|--------|------|------|-------|
| Р | χ2 | Ρ (χ2) | GFI | NFI | RMSEA |
| Values | 575.73 | 0.15 | 0.93 | 0.91 | 0.032 |

The path analysis in the SEM is presented in Figure 2 which was used to analyse the other four hypotheses in the study. Based on Figure 2 and Table 5, it could be seen that social norm (SC) has a direct positive effect on entrepreneurial interest with the regression weight of 0.11. This means that for every 1 unit increase in social normal there would be an increase in student entrepreneurial interest by 0.11. The regression weight is also significant at 5% level of significance.



FIGURE 2 PATH DIAGRAM OF THE STRUCTURAL EQUATION MODEL SHOWING THE STANDARDISED REGRESSION WEIGHTS

Attitude towards behaviour (ATB) has a direct positive effect on student entrepreneurial interest with a regression weight of 0.77 which is significant at 1% level of significance. In

addition to this, attitude towards behaviour has an indirect positive effect through university environment on entrepreneurial interest with a regression weight of 0.001, and it is also significant at 1% level of significance. It could be seen that the magnitude of impact of attitude towards behaviour on student entrepreneurial interest is high directly but low indirectly through university. Furthermore, the path shows that self-efficacy has direct positive effect on student entrepreneurial interest with regression weight of 0.11, and also indirect positive effect through university environment on student entrepreneurial with a regression weight of 0.0032. However both the direct effects and indirect effect of self-efficacy are not statistically significant at 10% level of significance. While university environment also has a direct positive effect on student entrepreneurial interest with a regression weight of 0.01, it is not statistically significant at 10% level of significance. The results of this study are similar to some related studies (Bahadir & Çakmak, 2018; Choukir et al., 2017, Batool et al., 2015), whereas the results on university is different from studies such as Zollo et al. (2017) and Shahid et al. (2018), and result on selfefficacy is different from that of related few studies where self-efficacy was statistically significant in influencing entrepreneurial interest (Osakede et al., 2017; Choukir et al., 2017; Ozaralli & Rivenburgh, 2016).

| Table 5 RESULTS OF THE HYPOTHESIS TESTS | | | | | |
|--------------------------------------------|--------|----------------------------|---------------|---------------|--|
| Hypothesis | Direct | Indirect | SR weights | Inferences | |
| H2 | Yes | N/A | 0.11^{**} | Supported | |
| H3a | Yes | - | 0.77^{***} | Supported | |
| H3b | N/A | Through University context | 0.001*** | Supported | |
| H4a | Yes | - | 0.11 | Not supported | |
| H4b | N/A | Through university context | 0.0032 | Not supported | |
| H5 | Yes | N/A | 0.01 | Not supported | |

Source: Author's own work.

N/A: Not Applicable; SR: Standardised Regression; H: Hypothesis.

***p<0.01, **p<0.05, *p<0.10

It is clear from the results of the SEM that all the factors have direct and indirect positive influence on student entrepreneurial interest. However, while hypotheses 2a, 2b, 3a and 3b are statistically significant and therefore upheld, hypotheses 4a, 4b and 5 are not statistically significant and not supported. Also, it could be observed that the indirect effects of attitude toward behaviour and self-efficacy on entrepreneurial interest through university environment are lower compared with their direct effect. This reveals that the role that university environment is playing to bolster student entrepreneurial interest is relatively low in the two universities as at the period of this study. This further signifies that some of the students have attitudes and somewhat level of confidence towards starting their own business in the future, but this would have been further improved by the role of the university. There is a need for the university to play a greater role beyond the traditional way of teaching entrepreneurship within the four walls of the class room. Many studies have shown the impact of engaging students at business incubation by allowing the students to participate in setting up a business from the idea generation stage till the business is fully grown under the supervision of both university faculty members and the successful entrepreneurs in different industry. The researchers found that there

is an existing entrepreneurship centres in the sampled universities, however the results from this study undoubtedly show the underutilisation of these centres.

The empirical results of this study support H1, H2, H3a and H3b as most of the demographic factors, social norms, attitudes towards behaviour directly and indirectly through university have positive and significant impact on student entrepreneurial interest. On the other hand, H4a, H4b and H5 although show that have self-efficacy directly and indirectly and university environment have positive influence on student entrepreneurial interest but are rejected because they are not statistically significant.

CONCLUSION

This study identifies various factors influencing student entrepreneurial interest in an emerging Saudi economy where unemployment rate of the citizens seem to be the major concern of the government. The factors are considered within the Theory of Planned Behavior and analyzed using structural equilibrium model. The result revealed that demographic factors, specifically age, present level of study, parent's background in business, and succession factor in parents business have positive and significant relations with the student's entrepreneurial interest. Furthermore, social norm in terms of the family and peer group has positive and significant influence on student entrepreneurial interest; student attitude toward behaviour has a direct and indirect positive and significant influence on entrepreneurial interest; whereas selfefficacy and university environment have positive and insignificant influence on entrepreneurial interest. It could also be observed that university environment undermine the indirect positive influence of both attitude towards behaviour and self-efficacy on entrepreneurial interest as the regression weights of their indirect effects are 0.001 and 0.0032 as against the regression weight of their direct effects of 0.77 and 0.11 respectively. There is a need for the universities to improve the level of formal enterprise education given the students by providing the academic and the business supports to generate ideas, start and nurture a new business in the entrepreneurship centre within the university.

This study implies that the support of relatives and friends would assist students to develop entrepreneurial interest. Also students should be encouraged to develop right attitudes towards becoming a business owner as well as develop self-confidence towards entrepreneurship as these have positive influence on students' entrepreneurial interest. Saudi government through its policy should create more awareness and sensitise young individuals about entrepreneurship as well as challenge and create enabling environment for universities to support business start-up. This is expected to create more wealth and reduce unemployment which leads to a sustainable economic development in Saudi Arabia.

This study is limited to students in the college of business but further study is required to capture students in all other colleges of the universities. Moreso, the study captures interest of the student and not the actual action as it is possible for the student to have an interest in entrepreneurship but fail to take action on it.

REFERENCES

Ahmad, H. (2010) Personality traits among entrepreneurial and professional CEOs in SMEs. *International Journal of Business and Management*, 5(9), 203-213.

Ababtain, A., & Akinwale, Y. (2019). The role of entrepreneurship education and university environment on entrepreneurial interest of MBA students in Saudi Arabia. *Journal of Economics and Sustainable Development*, 10(4), 45-56

- Ajzen, I. (1991). The theory of planned behaviour. Organizational Behaviour and Human decision processes, 50(2), 179-211
- Akinwale, Y. (2018). Empirical analysis of inbound open innovation and small and medium-sized enterprises' performance: Evidence from oil and gas industry. South African Journal of Economic and Management Sciences, 21(1), 1-9.
- Al-Kibsi, G., Woetzel, J., Isherwood, T., Khan, J., Mischke, J., & Noura, H. (2015). *Moving Saudi Arabia's* economy beyond oil. McKinsey Global Institute, 8-9.
- Bachiri, M. (2016). Determinants of students' entrepreneurial intentions: evidence from Moroccan University. *International Business Research*, 9(11), 83.
- Bahadir, Ö., & Çakmak, A. (2018). Determining the factors affecting entrepreneurial intention within the framework of theory of planned behavior. *Business & management studies: an international journal*, 6(1), 166-192.
- Batool, H., Rasheed, H., Malik, M.I., & Hussain, S. (2015). Application of partial least square in predicting eentrepreneurial intention among business students: evidence from Pakistan. *Journal of Innovation and Entrepreneurship*, 4(1), 6.
- Choukir, J., Aloulou, W., Ayadi, F., Mseddi, S., & Subaie, F. (2017). Freshmen students' entrepreneurial intentions in the college of economics and administrative sciences (CEAS) at Al-Imam Mohammad bin Saud Islamic University (IMSIU). In *ICIE 2017, 5th International Conference on Innovation and Entrepreneurship Proceedings, Kuala Lumpur,* 26-27.
- del Río, M.D.L.C., Peris-Ortiz, M., Álvarez-García, J., & Rueda-Armengot, C. (2016). Entrepreneurial intentions and entrepreneurship education to University students in Portugal. *Technology, Innovation and Education*, 2(1), 7.
- Durst, S., & 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.
- Fischbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Gist, M. (1987). Self-efficacy: Implications for organizational behaviour and human resource management. Academy of Management Review, 12(3), 472-485.
- Goel, A., Vohra, N., Zhang, L., & Arora, B. (2007). Attitudes of the youth towards entrepreneurs and entrepreneurship: A cross-cultural comparison of India and China. *Journal of Asia Entrepreneurship and Sustainability*, 3(1), 1-35.
- Hair, J.F., Black, B., Babin, B., Anderson, R., & Tatham, R.L. (2010). *Multivariate data analysis: A global perspective*. Pearson Education Inc., Upper Saddle River, NJ.
- Hasan, S.M., Khan, E.A., & Nabi, M.N.U. (2017). Entrepreneurial education at university level and entrepreneurship development. *Education+ Training*, 59(7/8), 888-906.
- Jabeen, F., Faisal, M.N., & Katsioloudes, M. (2017). Entrepreneurial mindset and the role of universities as strategic drivers of entrepreneurship: Evidence from the United Arab Emirates. *Journal of Small Business and Enterprise Development*, 24(1), 136-157.
- Johnson, B. (1990). Toward a multidimensional model of entrepreneurship: the case of achievement motivation and the entrepreneur. *Entrepreneurship Theory and Practice*, *14*(3), 39-54.
- Krueger Jr, N., & Reilly, M. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5/6), 411.
- Krueger, N.F., & Carsrud, A.L. (1993). Entrepreneurial intentions: applying the theory of planned behaviour. *Entrepreneurship & Regional Development: An International Journal*, 5(4), 315-330.
- Kuratko, D.F., & Hodgetts, R.M. (2004). *Entrepreneurship: Theory, process, practice*. South-Western Publishers: Mason, OH.
- Linan, F. (2008). Skill and value perceptions: how do they affect entrepreneurial intentions? *International Entrepreneurship and Management Journal*, 4(3), 257-272.
- Lope Pihie, Z., & Bagheri, A. (2011). Malay secondary school students' entrepreneurial attitude orientation and entrepreneurial self-efficacy: A descriptive study. *Journal of Applied Sciences*, 11(2), 316-322.
- Mahmud, M., Akinwale, Y., Khan, R., & Alaraifi, A. (2019). *Start-up techno entrepreneurship adaption: an intention based assessment study of start-ups in Kingdom of Saudi Arabia*. 27th Eurasia Business and Economic Society (EBES) Conference, Bali-Indonesia.
- Mohamad, N., Lim, H.E., Yusof, N., Kassim, M., & Abdullah, H. (2014). Estimating the choice of entrepreneurship as a career: The case of Universiti Utara Malaysia. *International Journal of Business and Society*, 15(1), 65.

- Osakede, U.A., Lawanson, A.O., & Sobowale, D.A. (2017). Entrepreneurial interest and academic performance in Nigeria: evidence from undergraduate students in the University of Ibadan. *Journal of Innovation and Entrepreneurship*, 6(1), 19.
- Ozaralli, N., & Rivenburgh, N.K. (2016). Entrepreneurial intention: antecedents to entrepreneurial behavior in the USA and Turkey. *Journal of Global Entrepreneurship Research*, 6(1), 3.
- Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in India: extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13(4), 1013-1041.
- Saeed, S., Yousafzai, S.Y., Yani-De-Soriano, M., & Muffatto, M. (2015). The role of perceived university support in the formation of students' entrepreneurial intention. *Journal of small business management*, 53(4), 1127-1145.
- Saudi General authority for statistics. (2018). Retrieved from http://www.stats.gov.sa
- Schumpeter, J. (1934). The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle. 55, Transaction Publishers.
- Shahid, M.S., Imran, Y., & Shehryar, H. (2018). Determinants of entrepreneurial intentions: An institutional embeddedness perspective. *Journal of Small Business & Entrepreneurship*, 30(2), 139-156.
- 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
- Tshikovhi, N., & Shambare, R. (2015). Entrepreneurial knowledge, personal attitudes, and entrepreneurship intentions among South African Enactus students. *Problems and Perspectives in Management*, 13(1), 152-158.
- Turker, D., & Sonmez Selçuk, S. (2009). Which factors affect entrepreneurial intention of university students?. *Journal of European industrial training*, 33(2), 142-159.
- Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. Small business economics, 13(1), 27-56.
- Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship theory and practice*, *31*(3), 387-406.
- Yıldırım, N., Çakır, Ö., & Aşkun, O.B. (2016). Ready to dare? A case study on the entrepreneurial intentions of business and engineering students in Turkey. *Procedia-Social and Behavioral Sciences*, 229, 277-288.
- Zollo, L., Laudano, M.C., Ciappei, C., & Zampi, V. (2017). Factors affecting universities' ability to foster students' entrepreneurial behaviour: An empirical investigation. *Journal of management development*, 36(2), 268-285.