

Factors impacting entrepreneurial intentions among university students in Saudi Arabia: testing an integrated model of TPB and EO

Factors
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intentions

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Abstract

Purpose – This research intends to contribute to the literature of entrepreneurial intentions through determining the factors impacting the entrepreneurial intentions among students in different academic programs. This is in order to enhance and improve entrepreneurship-related procedures within relevant universities.

Design/methodology/approach – The study was conducted by a structured survey questionnaire on 261 students in the University of Hail. The questionnaire was developed based on previous studies. The proposed hypotheses were tested by the use of the structured equation modeling (SEM) via using Amos software.

Findings – The results of the current study support the theoretical integration of the model as most of the hypotheses have been accepted. The results of the survey also show that attitudes toward behavior, self-efficacy, autonomy, risk-taking, pro-activeness and competitive aggressiveness are expressively related with entrepreneurial intention. Yet, social norms and innovativeness are not considerably connected with entrepreneurial intention.

Research limitations/implications – This study seeks to contribute to the relevant literature by integrating the theory of planned behavior (TPB) and the entrepreneurial orientation model (EO). This is in order to identify the factors impacting the intention of entrepreneurship among Saudi university students. As the case in many studies, this present study has some limitations. The main limitation lies in that it would not be possible to generalize the study's findings. This is due to the fact the research is the outcome of examining and studying one Saudi university. Therefore, it would be better to conduct similar studies in other Saudi universities in order to generalize the findings of the study.

Practical implications – The study's results could be of value to policymakers and university administrators in Saudi Arabia universities by which they could be enabled to allocate resources, develop strategies and provide all requirements for the sake of improving entrepreneurial skills among university students. This comprehensive model can be used as a tool for planning and prioritizing resources in bid for providing the required support as this support would reinforce the entrepreneurial opportunity of university students. As such, students would have better thinking about entrepreneurial work and thus would be assisted in achieving their professional goals and the broader goal of nation building.

Originality/value – Since today's youth are viewed as the potential future entrepreneurs, they should be encouraged to achieve the Saudi Kingdom's goals through creating suitable employment opportunities for them by supporting entrepreneurship. Therefore, pointing out the factors impacting the entrepreneurial intention of students will contribute to developing the field of entrepreneurship among young people in Saudi Arabia in general. In addition, realized outcomes would create an exciting new knowledge with regard to the entrepreneurial intention among the youth at the university level.

Keywords TRA, TPB, Entrepreneurial orientation model, Entrepreneurial intention, University of hail

Paper type Research paper

Introduction

Entrepreneurs are considered the “engines of economic growth.” If appropriately utilized, they would vastly and positively contribute to their country's economic growth and social



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development. Examples for their main contributions would include creating job opportunities innovating new products and production processes and other inventions. For entrepreneurship is considered as synonymous to self-employment, it is thought to be an effective strategic instrument in dealing with the issues such as employability, in particular among the youths (Koe *et al.*, 2012).

Entrepreneurs have been believed to constitute the cornerstone of industries. They come up with innovative business thoughts, ultimately making great contributions to socio-economic growth. Although university graduates are thousands annually, few of them have the desire to start their own businesses. In other words, most of them prefer to have a paid job. This, nevertheless, turns to be a disturbing fact for them, the public and governments. It is, therefore, better to encourage them to have self-employed careers instead of engaging and looking for wage employment as a survival strategy (Israr and Saleem, 2018). Another relevant issue is that the labor market is incapable of absorbing these huge numbers of graduate students. In addition, the private sector lacks the potentials necessary for taking in all the graduates as the public sector alone cannot create work for everyone. This is why governments must provide support to entrepreneurship and encourage graduates of different universities to start their own businesses to solve even part of the unemployment problem among the youths.

The 2030 Saudi Vision has special contents and messages targeting entrepreneurs. This is so because they are the next economic power. Exploiting their energies to create entrepreneurship and supporting their enterprises are among the most important drives of economic growth. Actually, the government is working today at an accelerated rate to review laws and regulations, overcome barriers and facilitate access to finance services with the intention to assist entrepreneurs market their ideas and products. Without this support, facilities that are managed by entrepreneurs cannot succeed from a vacuum.

The major goals of KSA in its 2030 Vision are to provide opportunities for all. This by creating an educational system that meets the needs of the labor market. Another is to set a strategic goal toward increasing the contribution of SME's to the overall national economy and thus reducing unemployment rates.

Entrepreneurship is an important and promising area that would support the economies of countries as it effectively contributes to a comprehensive economic development. This is because it is the basic seed for building small and large business organizations. Entrepreneurship is of great and growing importance at all levels. It has also become a very significant issue for many stakeholders (including individuals, organizations and governments). Its significance lies in that it has positive impact at all economic and social levels and is an important source of wealth and creativity and a tool for the creation of job opportunities.

Entrepreneurship is known as being the process of managing, organizing and developing a project in order to make profit. This process stems from an individual's desire and ability to do so. Where the entrepreneurial spirit is distinguished by creativity and risk-taking capability, it is a fundamental cornerstone of a state's ability to thrive within global markets with high competitive rates. The establishment of projects and new companies is an example of entrepreneurship.

In summary, entrepreneurship is seen as one of the most significant economic tools for any developing country (Kumasaru and Kumara, 2016). According to Omoruyi *et al.* (2017) entrepreneurship is one of the factors that directly or indirectly impact the economy of a nation: it plays an important role in shaping a country's economic landscape. In fact, entrepreneurship is the drive supporting economic growth and is seen as a catalytic instrument for the expansion of productive activities and their promotion in every arena of the economic life all around the globe.

Based on TPB and entrepreneurial orientation model, this study is to test the impact of attitudes toward behavior, self-efficacy, social norms and entrepreneurial dimensions on entrepreneurial intentions among the students in the University of Hail.

Statement of the problem

Given the potential benefits of entrepreneurship to the Kingdom as acknowledged by its 2030 Vision, the government has established many agencies and programs to encourage young people to start their own businesses. However, all these initiatives and programs have little impact on the number of real business start-ups. In addition, the Global Entrepreneurship Monitor (GEM) of Saudi Arabia report has shown that the total entrepreneurial activity, which represents a correlation between entrepreneurial intentions and activities, dropped down from 0.44 in 2016 to 0.34 in 2017. While the amount of published researches on the issue of entrepreneurial intention and its antecedents worldwide is extensive, researches regarding entrepreneurial intentions in the Arab world is almost lacking, and little is known of entrepreneurial intentions in Saudi Arabia (Alshagawi, 2019).

Therefore, this study examines the intention of entrepreneurship among university students. Understanding the factors that shape entrepreneurial intentions among such students can help the government attract more entrepreneurs, correct any misconceptions. This may encourage students to start new ventures and foster a very conducive environment for entrepreneurial activity. With this in mind, this study intends to define and determine the factors that influence the entrepreneurial intentions among students at the University of Hail. This is mainly for the sake of providing more knowledge and information toward the intention of student entrepreneurs.

Theoretical framework

Theory of reasoned action (TRA)

TRA intends to give an account of relationship existing among behaviors and attitudes with regard to any action taken by humans. It is majorly exploited to envisage the way a person would behave on the basis of his/her pre-existing attitudes and behavioral intentions. A person's decision to get involved in a specific behavior banks on the outcomes that person expects will emerge as a consequence of performing the behavior. Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980) worked on developing the theory of reasoned action (TRA).

According to Ajzen *et al.* (2007) TRA sheds light on theoretical constructs dealing with individual motivational factors. These factors are regarded as the determinants of the likelihood of performing a specific behavior. TRA assumes that behavioral intention is the best predictor of a behavior. The former is defined by an attitude toward the behavior and social normative perceptions regarding such an attitude.

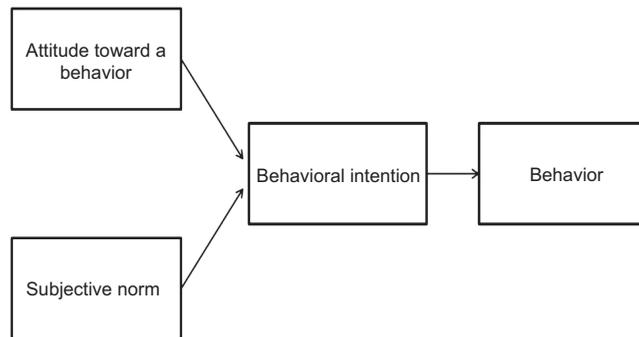
Generally speaking, the more there is an increase in attitude and subjective norms, the stronger the intention to perform the behavior is (Nguyen *et al.*, 2018).

TRA model recognizes two types of determinants and explanatory variables of the intention of behavior: one is the attitude toward behavior and the second is the subjective norm (Figure 1).

Attitude toward behavior intends to refer to the full disposition. This disposition, whether favorable or unfavorable, refers to the perspective of developing this kind of behavior and conduct. As such, this is regarded as the outcome of beliefs held by an individual with respect to the behavior and its consequences (Herrero-Crespo and Rodríguez-del-Bosque, 2010). Also, attitude toward a behavior constitutes the degree in which the value of the performance of the behavior is positively or negatively estimated.

According to Herrero-Crespo and Rodríguez-del-Bosque (2010), subjective norm reflects the effect that other people's opinion –family or friends, among others– has on the consumers. Subjective norm is a person's perception that most people hold with regard to that person's ability or inability to carry out a certain behavior under focus.

Figure 1.
Theory of reasoned
action (TRA)



[Al-Mamary et al. \(2016\)](#) states that many researchers have put the TRA into application in various academic arenas and fields of study. But the theory is insufficient as it has several limitations. In 1991 Ajzen expanded the TRA in order to overcome these limitations. This was by proposing a new theory called TPB.

Being an extension of the TRA, TPB incorporates an additional construct: perceived control over performance of the behavior.

Theory of planned behavior

According to [Saraiah et al. \(2017\)](#), Ajzen has developed the theory of planned behavior (TPB) as it stems from TRA. In this theory, attitudes, subjective norm and PBC (perceived behavioral control) are used in order to predict an intention with a like-high accuracy. TPB can be categorized into three concepts capable of forecasting the behavioral intention, including attitude towards the behavior, subjective norm and perceived behavioral control. In this present study, behavioral intention would be referred to as entrepreneurial intention, TPB suggests that important beliefs form the determinants of attitude toward behavior, subjective norm and perceived behavioral control. In this model, behavioral beliefs prompt an individuals' attitude towards behavior and normative beliefs that formulate the individuals' subjective norms and control beliefs. All of that lead the individuals' perceived behavioral control.

The theory of planned behavior, as a behavior-centered concept, is used widely to predict and modify human actions. According to [Ajzen and Kruglanski \(2019\)](#), TPB elaborates that behavioral intentions, and the immediate precursors of behavior are defined by attitude toward the behavior and subjective norm with respect to the behavior as well as perceived control over the behavior. According to [Morris et al. \(2012\)](#) TPB is one of a closely inter-related family of theories that intends to adopt a cognitive approach in order to explicate the behavior which centers on individuals' attitudes and beliefs. Along with being one of the most widely cited theories, it is one of the highly applied behavior theories. It evolved from the TRA, suggesting that intention to act is the best predictor of behavior. Intention is in itself an outcome of the combination of attitudes toward behavior. That is, the positive or negative evaluation of the behavior and its expected outcomes and subjective norms are the social pressures exerted on an individual resulting from their perceptions of what others think they should do and their inclination to comply with these expectations. Generally speaking, TPB model recognizes three types of determinants and explanatory variables of the intention of behavior: the first is attitude towards behavior; the second is subjective norm while the third is perceived behavioral control ([Figure 2](#)).

[Saraiah et al. \(2017\)](#) defines PBC as the perceptions on individuals. This constitutes two points which are: whether these individuals could implement the targeted behavior and how convenient they perceive that they can realize it.

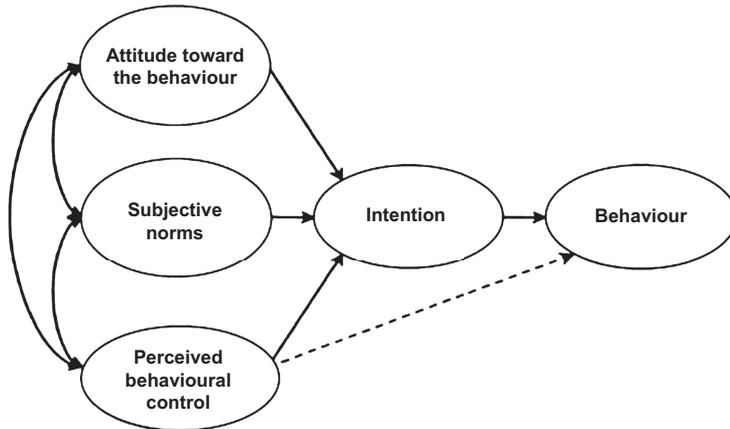


Figure 2.
Theory of planned
behavior

Entrepreneurial orientation model

Originally, [Miller \(1983\)](#) considers a firm entrepreneurial only if it scores high on all three traditional dimensions (innovation, proactiveness and risk-taking). [Lumpkin and Dess \(1996\)](#) provide an alternative view of entrepreneurial orientation. They give a combination of five dimensions; the three set by Miller plus competitive aggressiveness and autonomy. He states that the dimensions of an entrepreneurial orientation include competitive aggressiveness, risk taking, proactiveness, autonomy and innovativeness. According to [Al-Mamary et al. \(2020\)](#), by reviewing the entrepreneurial orientation literature, it is plain that the majority of prior studies have adopted Lumpkin and Dess and Miller perspective of entrepreneurial orientation as the combination of autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness. (see [Figure 3](#)).

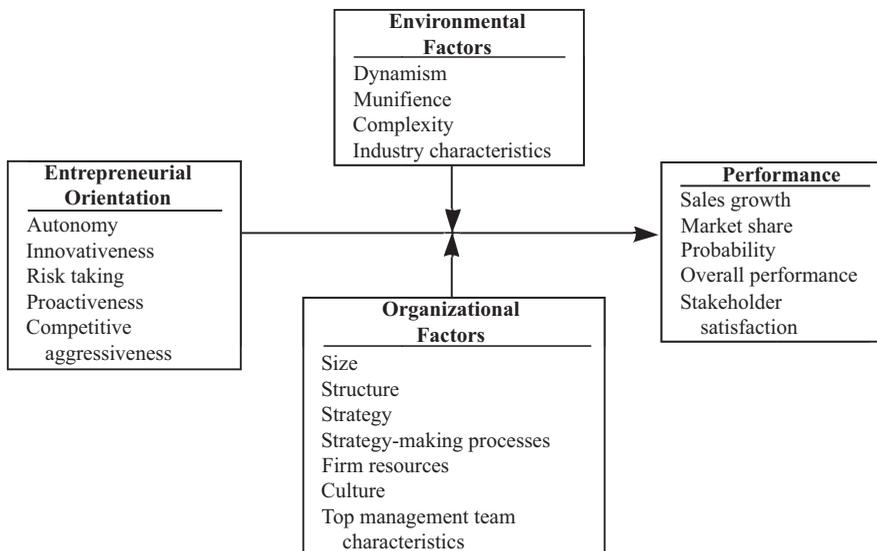


Figure 3.
Conceptual framework
of entrepreneurial
orientation

- (1) *Autonomy* refers to an individual or a team's independent action taking in order to formulate an idea or a vision. This idea or vision is then carried out by them to the stage of completion. Generally speaking, autonomy may indicate the capability and aptitude of an individual or team by which they become self-directed in terms of seeking opportunities. When applied in an organizational context, it refers to the action which is taken free of any tough organizational constraints (Lumpkin and Dess, 1996). Autonomy is an imperative constituent of an entrepreneurial orientation (EO). From an EO perspective, autonomy is mainly known as strategic autonomy. Through considering these higher levels or strategic dimensions of autonomy, a team (or individual) is not only enabled to resolve problems but they are also capable of defining the problem and the goals. By doing so, they would be able to solve that problem. Entrepreneurial autonomy indicates that there must be decisional freedom on the part of individuals or a team with respect to what, how and when venture-related work will be done (Lumpkin *et al.*, 2009).
- (2) *Innovativeness* reflects a firm's tendency to take part in and back up new ideas, creative processes, experimentation and novelty; all of which could bring about new products, services or technological processes (Lumpkin and Dess, 1996). Innovativeness has a linkage with the types of products and services introduced by a company to the market. Some theorists view innovativeness as an instrument intrinsically linked to entrepreneurship. This is so because entrepreneurs may create new combinations of resources by the very fact of their entry into the market. Given the EO context, innovativeness has a more narrow definition. It gives more emphasis to the significance of technological leadership to the company along with changes in its product lines (Schillo, 2011). According to Amodu and Aka (2017), innovativeness is the predisposition of a firm to support the creation of new ideas, experiment with new ways of doing things, renew technological methods and advance existing products or services.
- (3) *Risk-taking* was historically a major feature linked with entrepreneurship. Although it originally referred to the risks individuals doing work for themselves rather than being employed, it has since been widely applied to companies (Schillo, 2011). Risk-taking refers to the tendency to engage in bold rather than cautious actions. (Edwards *et al.*, 2014).
- (4) *Proactiveness* is defined as taking an action in anticipation of future problems, needs or changes (Lumpkin and Dess, 1996). It is the tendency to predict and act upon future needs rather than to take a reaction to events after they unfold. A proactive organization is known to be a business that adopts an opportunity-seeking perspective.

Such organizations act in advance prior to that market demand shifts. They are often either the first to enter new markets or "fast followers" that make improvements based on the initial efforts of first movers (Edwards *et al.*, 2014). According to Astrimi *et al.* (2020), pro-activeness refers to the willingness to develop ideas from the opportunities found through research and trend analysis. Proactiveness assists companies in creating competitive advantage by putting competitors in the position of "must respond to first-mover initiatives".

- (5) *Competitive aggressiveness* refers to when a firm intends to directly and intensely challenge its competitors. This challenge is for the purpose of achieving entry or improving its position. In other words, companies seeks to outperform industry rivals in the marketplace (Lumpkin and Dess, 1996). Also competitive aggressiveness sets or reflects a company's way of getting involved with its competitors. Add to that their ability to differentiate between companies that keep aloof from direct competition with

other companies and those that aggressively seek and follow their competitors' target markets (Schillo, 2011).

Entrepreneurial intention

Introduction

According to Singh and Onahring (2019), an intention is a human behavior. Yet, in terms of entrepreneurial mindset, the measurement of intentions has become topic subjected to research. During the past years, there were factors being mostly regarded as the deterrents of initiation and development of entrepreneurial activities. These factors include the lack of funds, raw materials, unskilled employees and many other relevant factors. But, concerned authorities created various provisions; this caused the appearance of entrepreneurial intention as an important factor. Thus, it is possible to define entrepreneurial intentions as a position to owning a business or becoming self-employed. Another detention of entrepreneurial intentions is that they may be viewed as personal orientations, leading to venture creations.

Moreover, entrepreneurial intention (EI) is regarded as one of the major factors that effectively contribute to the formation of entrepreneurship, its development and growth. As stated by Aliyu *et al.* (2015), EI advances self-reliance and creates initiatives. According to Bird (1988), entrepreneurial intentions is the state of mind of entrepreneurs. This state of mind directs their attention, experience and action to adopt a business concept and set the form and direction of organizations at their startups.

Despite that the entrepreneurial intention of university students has been researched from various perspectives, the findings are still not familiar, and therefore, the mechanism and outcomes relevant to the way entrepreneurial intention could be influenced by various factors do not have integrated investigation and comparative research (Hou *et al.*, 2019).

The intention of entrepreneurship is considered as a determining factor that affect any decision geared for choosing a career as an entrepreneur. It is important to have a good understanding of the factors affecting students' entrepreneurial intentions (Wahidmurni and Baihaqi, 2019). In this study, the researcher uses two popular models (TPB and EO Model) to examine how different factors could impact entrepreneurial intention among students in Saudi universities.

Latest researches in the field of entrepreneurial intention among students in Saudi universities

- (1) Sharahiley (2020) conducted a study to examine the individual TPB and EEM models; the study explores the integrated meta-analytic models used by Schlaegel and Koenig. It then examines the proposed and combined model in relation to some relevant additional variables. The findings actually show that the new research model surpasses all four models by exploiting the same dataset.
- (2) Alessa (2019) conducted a study to explore the Arab East College's male and female master's students' entrepreneurial intentions (EI). It attempts to examine their intentions toward creating their own businesses. The findings of this study reveal that students' personal attitude, subjective norm and perceived behavioral control are significantly related with one another. However, when regression analysis was performed, it shows that personal attitude, subjective norm and perceived behavior alone could explicate only 6% of the variability of the dependent variable (entrepreneurial intention).
- (3) Alshagawi (2019) conducted a study to investigate the effects of personality traits, demographic factors and government support on entrepreneurial intentions among Saudi university students. Data waere collected from 802 final year university

students by using convenient sampling method. Multiple regression and *t*-test with SPSS 20 were used to analyze the data. The findings of this study reveal that female students have lower entrepreneurial intentions as compared to male students. In addition, with reference to education majoring, students with a major in business have higher entrepreneurial intentions as compared to those with nonbusiness major. Similarly, students with prior entrepreneurial experience have higher entrepreneurial intentions as compared to their counterparts. The findings of the study also reveal that students who have family business have higher entrepreneurial intentions as compared to those whose families have no business. Finally, the results of this study reveal that the need of achievement and locus of control are the personality traits that most significantly affect entrepreneurial intentions. In addition, the government's support significantly influences entrepreneurial intentions of students in Saudi universities.

- (4) Choukir *et al.* (2019) conducted a study to give an explanation of the relationship of gender and role models with TPB constructs and intentions. The results of the study have shown that the TPB constructs are authenticated with regard to the Saudi context. As a matter of fact, these constructs have a significant relation with EI. Yet, while the SN and PBC constructs function as mediator for the relationship between the role models and EI, the gender variable controls the relationships of role models with EI, PBC with EI and role models with the SN. More precisely, this study conceives that gender differences in SN and PBC and women's EI are more likely to be affected by the SN and PBC than that of men .

The author notices that most recent studies in the context of Saudi Arabia have not paid any attention to the dimensions of the entrepreneurial orientation (EO) and its impact on strengthening the entrepreneurial intention. Thus, this study attempts to develop a new model that integrates TPB and EO models. It intends to contribute to the relevant literature. This is because none of the empirical researches has investigated this integrated model, particularly with reference to the Saudi Arabia's context.

The conceptual model

TPB and EO model in entrepreneurial intentions studies

Several studies have examined antecedents of theory of planned behavior TPB as the key factors influencing individual entrepreneurial intentions (Sharahiley, 2020). The entrepreneurship literature utilizing the TPB has grown considerably over the last 20 years. The TPB has become one of the most utilized theories in terms of explaining and predicting behaviors of individuals. The TPB has been used to explain and predict planned behaviors in entrepreneurship as well. Almost all entrepreneurship scholars that have incorporated the TPB into their research establish the foundation that starting and growing a business (and various other behaviors related to entrepreneurship) are planned behaviors (Lortie and Castogiovanni, 2015).

The literature survey of current studies (e.g. Al-Jubari, 2019; Alam *et al.*, 2019; Muhammad *et al.*, 2015; Sabah, 2016; Van Gelderen *et al.*, 2008) on entrepreneurial intentions has indicated that they have used TPB as their baseline models.

In addition, the literature survey of current studies (e.g. Aspa and Suprpto (2017); Naqvi and Siddiqui, 2020; Yamamoto and Kan 2018; So *et al.*, 2017; Park, 2017; Shamsudeen *et al.*, 2017; Aspa and Suprpto, 2017; Koe, 2016; Ibrahim and Lucky, 2014) on entrepreneurial intentions has indicated that they have used EO as their baseline models.

In this study, integration of TPB and OE has been adopted to provide complementary explanation of entrepreneurial intention.

Proposed conceptual framework

Based on the objectives and research problem of this study, the proposed conceptual framework was created by using the following dimensions; the first is TPB dimensions (attitudes towards behavior, social norms and perceived behavioral control); the second is the entrepreneurial orientation dimensions (autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness); the third is the entrepreneurial intention (EI) as the dependent variables. Since many studies have stated that perceived behavioral control is the same as the concept of self-efficacy, this study intends to replace the concept of perceived behavioral control by the concept of self-efficacy. According to [Morris et al. \(2012\)](#), the TPB adds a third set of factors affecting intention (and behavior). This is the PBC. In other words, it is the perceived ease or difficulty whereby an individual is capable of doing or implementing that behavior. Needless to say, this concept definitely resembles the notion of self-efficacy. [Dwivedi et al. \(2011\)](#) highlights the major difference between TRA and TPB. This difference lies in adding a third determinant of behavioral intention, which is perceived behavioral control, PBC. The concept of PBC, nevertheless, originates from the self-efficacy theory (set) proposed by Bandura. [Ajzen \(2001\)](#) discusses control beliefs, which mean an individual's beliefs about the presence of factors that may facilitate or hinder the performance of the behavior. It is however safe to state that the concept of PBC is conceptually linked with self-efficacy.

[Figure 4](#) below illustrates the conceptual framework of this study that was established for the purpose of answering the research questions.

Methodology

Research design

The purpose of this survey study is to examine the factors influencing entrepreneurial intention among university students in Hail University. This study uses survey methods to obtain data measuring attitudes towards behavior, social norms, self-efficacy, autonomy, innovativeness, risk-taking, proactiveness, competitive aggressiveness and entrepreneurial intention. The survey items were grounded on validated tools in the previous literature. The proposed research model was analyzed using the SEM supported by AMOS and the SPSS software program. According to [Awang \(2012\)](#), analysis of moments structures model (AMOS) is one of the latest software. Developed and available in the market, this software is used to assist researchers in performing analysis of the inter-relationships and make models for such inter-relationships within constructs that possess multiple indicators in an efficient, accurate and effective manner.

Research instrument

The independent and dependent variables that are examined in the present study are composed of 31 items. These items are adapted from past studies. The measurement of attitudes toward behavior, social norms and self-efficacy was adopted from [Akinwale et al. \(2019\)](#). In addition, the measurement of autonomy was adopted from [Al Mamun et al. \(2017\)](#). Besides, the measurement of innovativeness, risk-taking and proactiveness is adopted from [Vogelsang \(2015\)](#). Furthermore, the measurement of competitive aggressiveness was adopted from [Hughes and Morgan \(2007\)](#). Finally, the measurement of entrepreneurial intention was adopted from [Liñán and Chen \(2006\)](#).

In the measuring instrument, there are three sections. Section A incorporates questions in order to attain demographic information about the respondents. This information includes gender, program and the degree of interest in initiating a new venture. It also contains questions such as "Does the family own a business?" Add to that information about the family income. Section B has 25 items adapted from previous studies assessing eight dimensions (attitudes towards behavior, social norms, self-efficacy, autonomy, innovativeness, risk

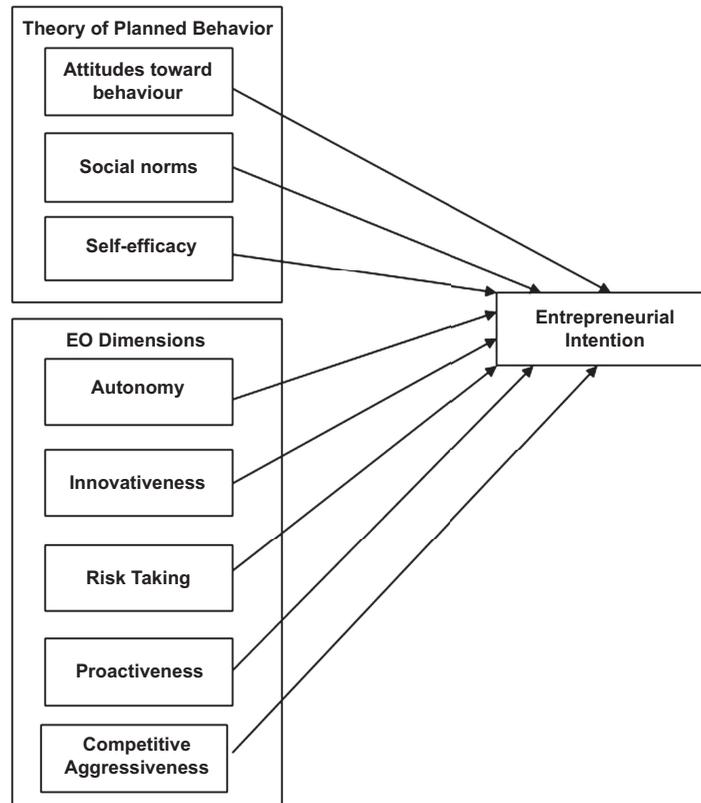


Figure 4.
Proposed
conceptual model

taking, pro-activeness and competitive aggressiveness). In Section C, there are six items adapted from previous studies. Such items are mainly for assessing entrepreneurial intention. The measurement scale ranges from 1 = “strongly disagree” to 5 = “strongly agree.” Before being mass distributed, the questionnaire was pilot tested. Where necessary, rephrasing of the items was done in order to make such items suit the present study.

Sampling and data collection

Data collection was conducted via send the questionnaire link to all students via WhatsApp groups for students. In addition, with the help of faculty members, the questionnaires were offered to the students online on Blackboard. The research consists of the data of 261 students collected from both male and female of the business stream from the University of Hail. For validation, the questionnaire piloted among 50 students of different streams. The data were collected from the students of various departments consisting of management, MIS, finance and accounting students. The samples were randomly selected.

Results

Demographic profiles

The analyses of this study were in accordance with the responses of the 261 students in College of Business Administration, the University of Hail. [Table 1](#) illustrates the results of

		Frequency	%
Sex	Male	83	31.8
	Female	178	68.2
Program	MIS	95	36.4
	Management	70	26.8
	Accounting	51	19.9
	Finance	45	16.9
Interest in starting a new ventures	Yes	218	83.5
	No	43	16.5
My family has a business	Yes	80	30.7
	No	181	69.3
Family Income	Less than 5000 SR	59	22.6
	More than 5000 SR and less than 10000 SR	95	36.4
	Above 10000 SR	107	41.0

Table 1.
Demographic profiles

respondents' background information. 83 male students (31.8%) and 178 female students (68.2%) were participants in this study. This may be attributed to the high number of female students in the College of Business, the University of Hail. In addition, it was found that 95 of the students (36.4%) were from the program of management information systems (MIS), followed by 70 students (26.8%) from the program of management. Add to those 51 students (19.9%) from the program of accounting, followed by 45 students (16.9%) from the program of finance. Table 2 gives information on the extent of the students' interest in starting up new ventures. Actually 83.5% of which claim they have interests, while 16.5% lack the interest. This indicates that most of the students have interest to start up a new venture. In addition, Table 2 indicates that most students' families (69.3%) do not have their own businesses. That is, only few students' families have their own business (30.7%). Moreover, Table 2 shows that 22.6% of students' families rely on their monthly income which is less than 5000 SR. 36.4% of the students' families make more than 5000 SR and less than 10000 SR, while 41% make above 10000 SR.

Measurement model

The measurement models for each construct were evaluated through the use of confirmatory factor analysis (CFA) employing AMOS version 21. Being a special form of factor analysis, the confirmatory factor analysis (CFA) exploited to examine if the measures of a construct are in line with the researcher's comprehension of the nature of that construct (Awang, 2012). Four indicators are used whenever possible. When other constructs have more than three indicators, it is acceptable to have three indicators per construct. However, it is a must to avoid constructs having fewer than three indicators (Hair *et al.*, 2010). SEM is also a confirmatory method that intends to offer a comprehensive means for evaluating and amending the measurement and structural models.

Yet, it is important to mention that the fitness indexes of the initial measurement model were not within the recommended level by Al-Mamary and Shamsuddin (2015), and Al-Mamary *et al.* (2015) (see Figure 5).

According to Awang (2015) and based on CFA, any item that is unsuitable for the measurement model because of its low factor loading should be removed from the model. The fitness of a measurement model is assessed through the use of certain fitness indexes. However, the omission of unsuitable items must not go beyond 20% of the total items in a model. If, for instance, the fitness index has not been accomplished following the removal of low factor loading items, then one must examine the modification indices (MI). If the high

Construct	Item	Factor loading	Cronbach alpha (≥ 0.7)	CR (≥ 0.7)	AVE (≥ 0.5)
ATB	ATB1	0.710	0.854	0.859	0.673
	ATB2	0.886			
	ATB3	0.854			
SN	SN1	0.717	0.796	0.800	0.572
	SN2	0.721			
	SN3	0.826			
SE	SE2	0.756	0.854	0.859	0.671
	SE3	0.803			
	SE4	0.893			
A	A1	0.877	0.785	0.791	0.656
	A2	0.737			
I	I1	0.781	0.840	0.841	0.638
	I2	0.797			
	I3	0.818			
RT	RT1	0.728	0.814	0.812	0.590
	RT2	0.804			
	RT3	0.771			
P	P1	0.764	0.850	0.850	0.654
	P2	0.809			
	P3	0.851			
CA	CA1	0.839	0.798	0.800	0.666
	CA3	0.793			
EI	EI2	0.815	0.923	0.921	0.700
	EI3	0.859			
	EI4	0.859			
	EI5	0.797			
	EI6	0.852			

Table 2.
CFA report summary

value of MI is above 15, this indicates that there are redundant items in the model. [Figure 6](#) depicts that deletion of the problematic items of the final CFA model.

In this study, four items were deleted out of 31. This means that 12.90% of items are deleted. Based on the fitness indexes as shown in [Figure 7](#), the CFA model fits well. While the TLI, CFI were above 0.90, the NFI, GFI were above 0.80. Also the ChiSq/df is < 3 , and the RMSEA is below 0.08. In addition there are all the items with factor loading value with a greater percentage than 0.6. As stated by [Al-Mamary and Shamsuddin \(2015\)](#), [Al-Mamary et al. \(2015\)](#), the final measurement model fits well.

Reliability and validity of a measurement model

[Awang \(2012\)](#) proposes that as soon as the CFA procedure for every measurement model is finished, a researcher has to calculate other remaining measures in order to indicate the validity and reliability of the measurement model. The validity could possibly be evaluated by the use of convergent validity ($AVE \geq 0.50$), the construct validity (all fitness indexes for the models must meet the required level) and the discriminant validity (all redundant items are either deleted or constrained). The correlation between exogenous constructs is ≤ 0.85 . [Zait and Berteau \(2011\)](#) recommend that establishing discriminant validity requires an appropriate AVE (average variance extracted) analysis. In an AVE analysis, the test is carried out to see if the square root of every AVE value belonging to each latent construct is much larger than any correlation among any pair of latent constructs.

The reliability can be evaluated by the use of the internal reliability (Cronbach alpha ≥ 0.70) and construct reliability (CR ≥ 0.70). [Table 2](#) below shows the measures of

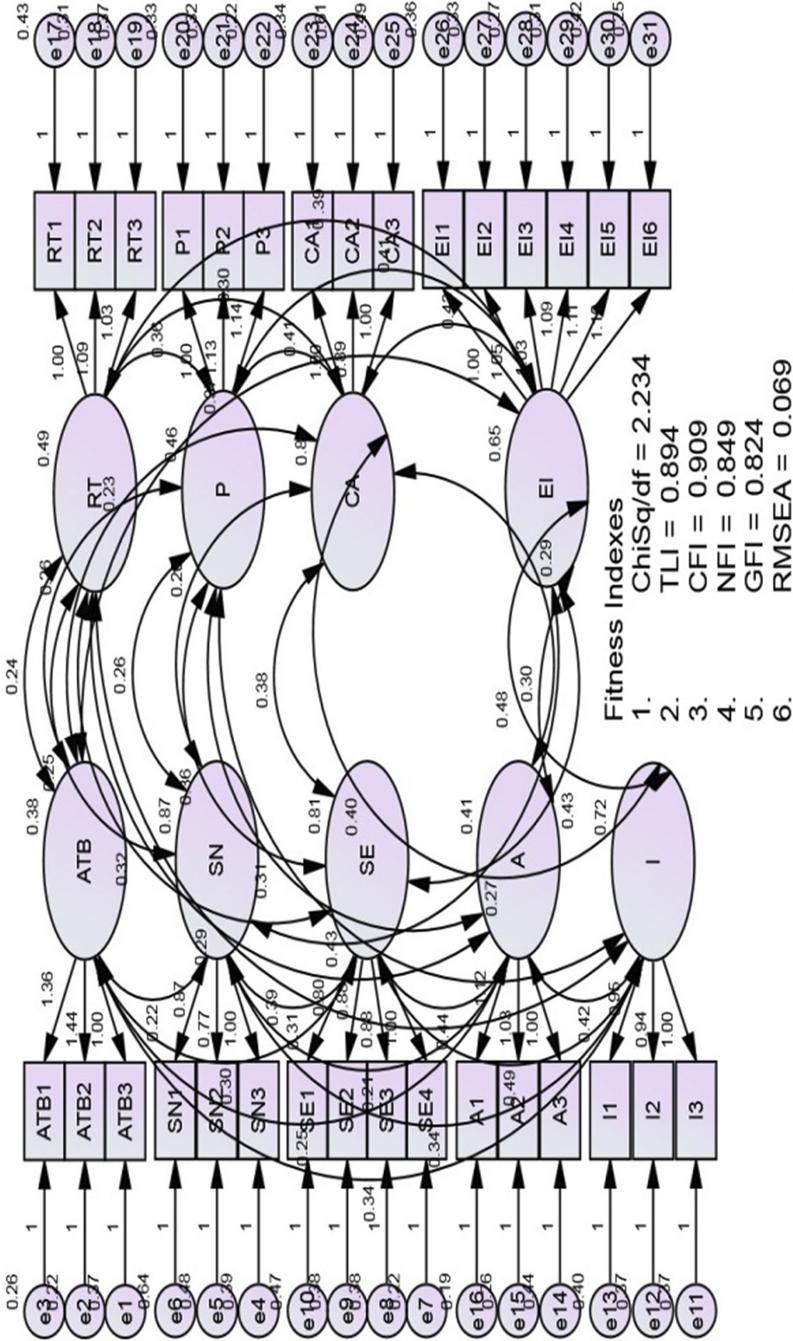


Figure 5.
Initial measurement
model (CFA)

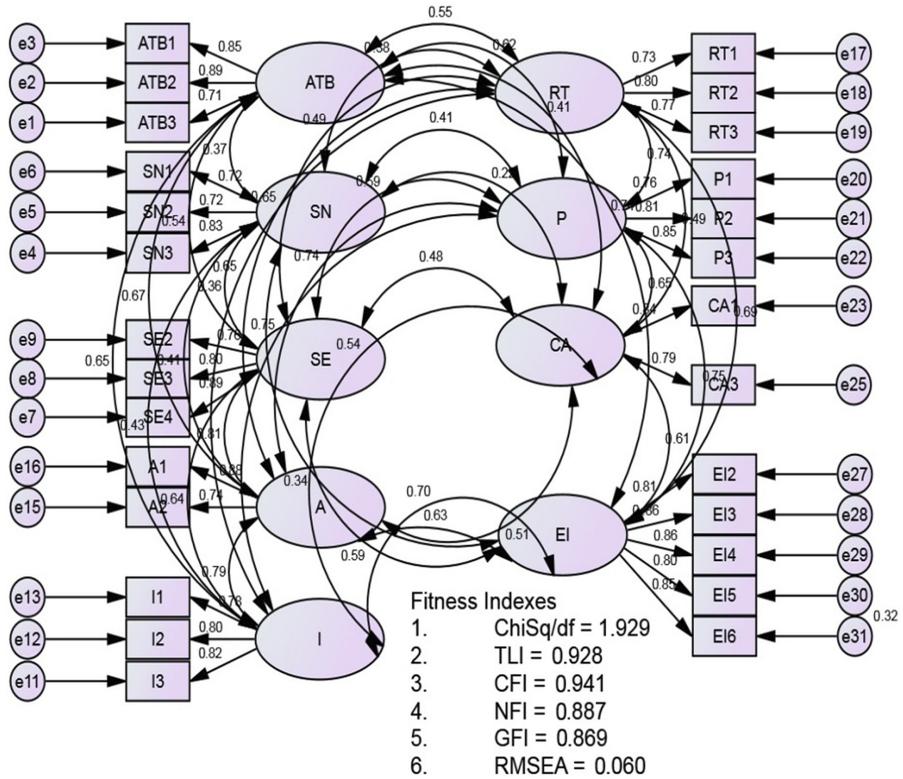


Figure 6.
Final measurement
model

validity and reliability of a measurement model. It further reports the summary of the confirmatory factor analysis (CFA) for all constructs.

The diagonal values (in italic type below) represent the square root of AVE while the other values depict the correlation among the respective constructs. [Awang \(2012\)](#) states that the discriminant validity could be accomplished when a diagonal value is higher than the values in its row and column. This is clearly presented in [Table 3](#).

Structural model

As shown in [Figure 7](#) and based on the GOF indexes, the proposed model fits well. Whereas the GFI, NFI show a percentage above 0.80, the TLI, CFI give a percentage above 0.90. Also the ChiSq/df is <3 and the RMSEA below 0.08. The result of hypothesis testing is shown in [Table 4](#) below.

Discussion

- (1) In this present study, the research findings have shown that attitudes toward Behavior does constitute a direct and positive impact on entrepreneurial intention. This outcome backs up hypothesis H1. It also goes in line with past studies (e.g. [Saraih et al., 2018](#); [Mohammed et al., 2017](#); [Dinc and Budic, 2016](#); [Al-Jubari, 2019](#)).

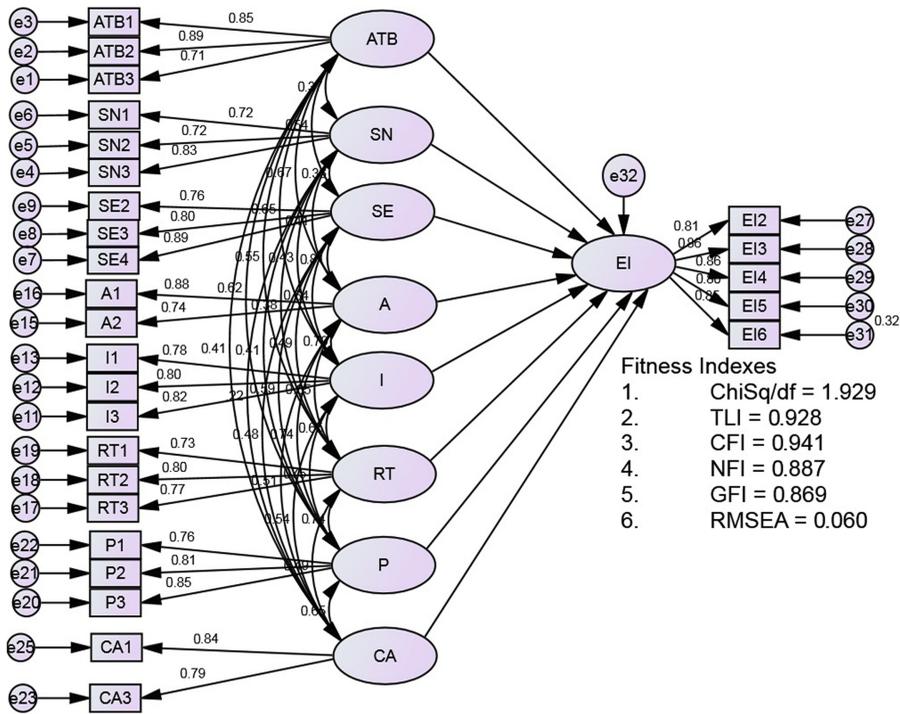


Figure 7.
Revised structural model

Construct	ATB	SN	SE	A	I	RT	P	CA	EI
ATB	(0.820)								
SN	0.375	(0.756)							
SE	0.539	0.361	(0.819)						
A	0.667	0.409	0.809	(0.810)					
I	0.649	0.431	0.644	0.788	(0.799)				
RT	0.548	0.379	0.492	0.650	0.650	(0.768)			
P	0.617	0.406	0.588	0.737	0.749	0.745	(0.809)		
CA	0.414	0.221	0.483	0.510	0.537	0.487	0.649	(0.816)	
EI	0.737	0.344	0.591	0.631	0.701	0.693	0.751	0.607	(0.837)

Table 3.
Discriminant validity

Hypothesis	<i>p</i>	Result
H1: EI → ATB	***	Supported
H2: EI → SN	0.433	Not Supported
H3: EI → SE	0.025	Supported
H4: EI → A	0.030	Supported
H5: EI → I	0.107	Not Supported
H6: EI → RT	0.004	Supported
H7: EI → P	0.042	Supported
H8: EI → CA	0.025	Supported

Table 4.
Result of hypothesis testing

This means that in the future most male and female students want to be entrepreneurs. Another point is that this career is very attractive to them. Not only that, it is clear that they prefer self-employment to working in the public or private sector. The high positive attitude toward entrepreneurial work confirms that students tend to work on their own account rather than working for others.

- (2) In this present study, the research findings have shown that social norms are not significant to entrepreneurial intention, and thus hypothesis H2 is rejected. The results are in conflict with previous studies (e.g. [Saraih *et al.*, 2018](#); [Mohammed *et al.*, 2017](#); and [Al-Jubari, 2019](#)).

Perhaps, this hypothesis is rejected because family, friends and the society support male or men to start an entrepreneurial project. As for women, it seems that there is lack of support. This could possibly be attributed to norms and traditions. Since most of the respondents to the questionnaire(s) are females (i.e. 68.2%), the author notes that there are challenges facing them in the field of entrepreneurship. One of the most important challenges facing Saudi women and preventing them from entering the field of entrepreneurship is the negative view of society on the notion of having women work in this sector as Saudi families do not favor that men and women mix a lot. Thus, it is preferable that women work in government jobs surrounded by women. Moreover, it is unacceptable for families to have a woman own a special project, given that these projects require a lot of interaction and dealings with men in terms of buying, selling, marketing and promoting products/services. Therefore, most women entrepreneurs work from home and collaborate with a specific agency to market their products. In general, the Saudi girl feels that family, friends and society will not support her in order for her to start up her own business, and they will not accept the idea of having a girl become an entrepreneur. Nevertheless, with the new orientation of Saudi Arabia, and according to the 2030 Vision, there will be many women working as entrepreneurs, and the society's perception of women entrepreneurs must definitely change.

- (3) The research findings have indicated that self-efficacy does have direct and positive impact on entrepreneurial intention. This is in support of hypothesis H3. This result is in concordance with the past studies. (e.g. [Ojewumi, 2019](#); [Atiya *et al.*, 2019](#); [Pihie and Bagheri, 2013](#); [Zurriaga-Carda *et al.*, 2016](#); [Moraes *et al.*, 2018](#));

It is safe to state that this study has clearly pointed out that most male and female students feel that they have self-efficacy as it is easy for them to start an entrepreneur project and maintain its continuity. They are also confident that they possess all the required skills to initiate their own businesses. Generally speaking, they believe they can successfully run any business.

Entrepreneurial self-efficacy (ESE) is known to be the confidence of an individual in his/her potentials and capabilities, succeeding in performing entrepreneurial roles and tasks without any need for help from others. [Pihie and Bagheri \(2013\)](#) define entrepreneurial self-efficacy as the beliefs of individuals in their capacities to successfully carry out the tasks needed for starting up and managing a new venture. It also indicates their expectations toward the outcomes of creating a new venture.

- (4) The research findings of this study show that autonomy has direct and positive effect on entrepreneurial intention. This is in support of hypothesis H4. This result goes in line with past studies (e.g. [Al-Jubari *et al.*, 2017](#); [Mahajan and Arora, 2018](#); [Al-Nashmi, 2017](#)).

It is clear that the results of the study indicate that most students of the College of Business Administration at the University of Hail are able and willing to be independent in seeking

opportunities. Their views are completely independent of the views of others, and they generally love independent work. Gelderen (2016) states that entrepreneurial autonomy grants entrepreneurs the chance to work based on their own goals, values, tastes and beliefs.

It is assumed that a business owner may enjoy doing one thing or another in a specific way; however, his/her customers may want him or her to work in their way or in accordance with their specifications. Van Gelderen *et al.* (2020) consider autonomy as a primary motive along with source of satisfaction. This is in particular for individuals who start up and run their own businesses. In addition, autonomy is not inherent to business ownership. That is to say, business owners/founders have to exert concerted efforts in order for them to accomplish and keep autonomy. The meaning of entrepreneurial autonomy is to possess freedom in taking decisions with regard to the type of venture-related work to be done and how to carry it out and when to do so. It further incorporates setting the strategic direction of the firm.

- (5) The research findings of this study have shown that innovativeness has no importance with regard to entrepreneurial intention. This means the rejection of hypothesis H5. As such, the outcomes are in conflict with previous studies (e.g. SO *et al.*, 2017; Koe, 2016). The rejection of this hypothesis may be attributed to that the male and female students of the College of Business Administration at the University of Hail prefer to do business as others do. They have no intentions to engage and try new activities. Also they could be lacking innovation to solve problems and thus prefer to use traditional methods in doing so.

In general, innovation means that more effective processes, products and ideas are formulated. For commercial activities, this could indicate the implementation of novel ideas, the creation of dynamic products or the improvement of existing services. Through innovation, the success of a business is likely to increase. Entrepreneurship and innovation are increasingly significant in all areas of business and government. However, since male and female students prefer to work in traditional ways, a university and government must motivate students and encourage them to be creative and innovative. Also, all sectors must provide a suitable ground for innovation and provide care for the innovation environment. More importantly, it is necessary to move away from traditional methods used in solving problems.

- (6) In this present study, its research findings have revealed that risk-taking forms a direct and positive effect on entrepreneurial intention, a notion which supports hypothesis H6. As such, this outcome is concordant with the past studies (e.g. SO *et al.*, 2017; Popescu *et al.*, 2016; Asmara *et al.*, 2016; Moraes *et al.*, 2018).

In successful entrepreneurship, taking risks is a must. If one does not embrace risk-taking, then that person must reconsider being a business owner. This does not mean that taking risks is a matter of going into business without any plans nor clear perception and at the same, expecting great results. On the contrary, taking risks in entrepreneurship requires careful planning and hard work (Genever, 2017). Risk-taking means that an entrepreneur takes the risks when introducing new products to the market. It also means taking into account the risks of ambiguity. What drives an entrepreneur toward a tendency to take risks is the strong desire to succeed and achieve the largest possible return. In accordance with this study, it is clear that most of the male and female students at the College of Business Administration at the University of Hail like to do bold actions through adventure in the unknown; they are willing to spend a lot of time and/or money on something that may enable them to achieve a high return and generally tend to act "boldly" in risky situations.

- (7) The research findings of this study have shown that proactiveness possesses direct and positive effect on entrepreneurial intention. This supports hypothesis H7. This outcome goes in line with the past studies (e.g. SO *et al.*, 2017; Koe, 2016).

Most students of the College of Business Administration at the University of Hail prefer to act anticipating future problems, needs or changes. They tend to plan for the future in projects and prefer to complete tasks in projects instead of sitting and waiting for someone else to do the job for them. Proactiveness means taking the lead in seizing opportunities and taking advantage of them by anticipating and fulfilling market requirements before such opportunities are lost and seized by competitors. Proactiveness is an attribute inherent in a market leader and in key business areas, whether at level of introducing novel services or products or new industrial or managerial technologies. Entrepreneurs must possess the resources necessary for the first entry into the market in order for them to achieve a head start in the competition arena and succeed in being leaders of the market and not subordinates to those who preceded them. Their success must be based on what they have of the will, insight and ability to seize new opportunities, predict and confront potential problems and find convenient solutions.

- (8) In this study, the research findings have indicated that competitive aggressiveness has direct and positive effect on entrepreneurial intention. This is in support of hypothesis H8. By reviewing previous studies, it is clear that most studies have linked competitive aggressiveness and performance (e.g. [Linyiru and Ketyenya, 2017](#); [Kumasaru and Kumara, 2016](#); [Hossain and Asheq, 2019](#); [Lee and Lim, 2009](#)). Thus, this study attempts to know the effect of competitive aggressiveness on the entrepreneurial intentions of the students in universities.

Competitive aggressiveness does not mean that rivalry exists between enemies and opponents. Yet, it can take place between people and organizations that have conflict in interests. Although there are links that bring such groups together, each one of them is keen to achieve his/her own benefit. It means that the tendency of entrepreneurs is to take a hostile attitude toward their competitors and to use a high level of competitive intensity in serious attempts to overcome them. Male and female students at the College of Business Administration at the University of Hail expect that their businesses will be very competitive and that they are able to compete in the labor market by taking their work in a bold or aggressive approach when competing.

Implications

Theoretical implications

Most of the previous studies in the field of entrepreneurial intent in the context of Saudi Arabia have focused on the theory of planned behavior (TPB), and there are other studies that have studied the dimensions of entrepreneurship. Yet, the current study has intended to merges the dimensions of the planned behavior theory (attitudes toward behavior, social norms, perceived behavioral control (self-efficacy)) with the dimensions of the entrepreneurial orientation (autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness) along with developing a model that integrates the two theories.

This research is first of its type that has provided a widespread view on different well-known models (TPB and OE), constructs and how they tend to influence students toward understanding of their entrepreneurial intentions. As there have been a handful of studies in Saudi Arabia's context, this study could be considered as a reference research to guide future researchers in this specific area.

The findings of this research add value to the existing empirical research in this area as none of the existing studies in context of Saudi have tested an integrated model of TPB and EO.

The outcomes of this study clarify that the three dimensions of the TPB (i.e. attitude, subjective norm and self-efficacy/PBC) seem to play a differentiated role in the forming the

entrepreneurship intentions of business student, with subjective norms proved to be insignificant in the process of intention formation. In addition, the outcomes of this study clarify that the five dimensions of the EO (i.e. autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness) seem to play a differentiated role in forming the entrepreneurship intentions of business student, with innovativeness proved to be insignificant in the process of intention formation. In general, the outcomes of this study clarify that most dimensions of TPB and EO play an important role in the forming of the entrepreneurship intentions of business students in university of Hail, in support of the proposed model.

In general, the importance of the current study lies by merging the TPB with the entrepreneurial orientation model along with linking them with the concept of entrepreneurial intention. The proposed model will serve as a nucleus for further research in this field in the Arab Gulf countries in general and Saudi Arabia in particular.

Practical implications

This study has attempted to examine the applicability of the TPB model and EO model in the Saudi context. This is by using a student sample from the College of Business Administration at the University of Hail. Relevant results have supported most of the study's hypotheses, a matter which supports the application of the proposed model. It is clear that through this study there is a high entrepreneurial intention among male and female students to open their own businesses. Entrepreneurship is a good instrument that must be encouraged among male and female students in order for them to be able to deal with the lifestyle and hectic needs of today. Entrepreneurial projects play an important role in supporting and developing the economy, as it is one of the most vital and prominent drives and engines of economic development. One of the most prominent features of these entrepreneurial projects is that they can absorb more manpower. This makes them an appropriate environment for investing human energies. They would positively and effectively contribute to reducing unemployment, which negatively affects the process of economic growth. They would operate in such a way that causes many tangible changes at the social levels.

In other words, the intention is to deal with an important topic in the Saudi 2030 Vision. This issue is related to the point of entrepreneurship in the Saudi Vision; there are certain points to be taken into account. The entrepreneurial and business establishment sector is still relatively recent in Saudi Arabia, and the entrepreneurial systems in general suffer from a set of deficiencies. Therefore, having knowledge of the factors impacting the entrepreneurial intention of students will be vital in order to raise the entrepreneurial intention among them. This could be possible through enforcing and caring for the factors that positively affect and overcoming all obstacles in front of students. Therefore, it will be possible to train and equip human resources or staff specialized in the field of entrepreneurship, develop small and emerging projects and create job opportunities for young men and women through their own projects.

In summary, the study's results could be of value to policymakers and university administrators in Saudi Arabia universities. In addition, this comprehensive model can be used as a tool for planning and prioritizing resources in bid for providing the required support as this support would reinforce the entrepreneurial opportunity of university students. As such, students would have better thinking about entrepreneurial work and thus would be assisted in achieving their professional goals and the broader goal of nation building. Since today's youth are viewed as the potential future entrepreneurs, they should be encouraged to achieve the Saudi Kingdom's goals through creating suitable employment opportunities for them by supporting entrepreneurship. Therefore, pointing out the factors impacting the entrepreneurial intention of students will contribute to developing the field of entrepreneurship among young people in Saudi Arabia in general. In addition, realized outcomes would create an exciting new knowledge with regard to the entrepreneurial intention among the youth at the university level.

Limitations and directions for future research

There are some limitations for this study. First, the main limitation lies in that it would not be possible to generalize the study's findings. This is due to the fact the research is the outcome of examining and studying one public Saudi university. Therefore, it would be better to conduct similar studies in other Saudi universities in order to generalize the findings of the study. Yet, it is important to incorporate more private and public universities. This will increase the sample and may show different results. In addition, the student sample is mostly BA students in the College of Business Administration. By including more students from other colleges, this may show various results.

Secondly, this study has validated a model without any mediating or moderating variables. Future study is also needed on the potential mediating or moderating variables that may affect on entrepreneurial intention.

Conclusion

An entrepreneurial activity at the individual or organizational level is one of the basic elements in reviving the economic situation in any country that desires to develop and rise. In the long run, any economic progress and success in any country depends on creative methods or entrepreneurial actions and activities.

There is a lack of quantitative research on entrepreneurial intention in Saudi Arabia. Realizing this, there were two objectives of this research. First, to determine the factors impacting the entrepreneurial intentions among students in different academic programs. This is in order to enhance and improve entrepreneurship-related procedures within relevant universities. Second, it tested the performance of the two well-known individual models (i.e. TPB and OE).

In conclusion, it is safe to affirm that the research objectives of this study have been accomplished in terms of determining the factors that affect the entrepreneurial intentions among students in the different academic programs offered by the College of Business Administration at the University of Hail.

With respect to the factors, it is hypothesized that attitudes toward behavior, social norm, self-efficacy and dimensions of entrepreneurial orientation (autonomy, risk-taking, innovativeness, proactiveness, and competitive aggressiveness) are all positively related to entrepreneurial intention. The findings have indicated that attitudes toward behavior, self-efficacy, autonomy, risk-taking, proactiveness and competitive aggressiveness are positively related to entrepreneurial intention among business students. Another point that is realized by this study is that it identified the most important factors that affect entrepreneurial intention, especially among the youth. This will have a major role in helping universities and governments obtain a better vision with relation to entrepreneurship in an effort to increase entrepreneurial awareness among college students. This can ensure that more businessmen would be the products of universities.

The study also has examined the integrated model by utilizing AMOS software version 21. The findings suggested that most of the dimensions in TPB model and EO model were the key determinants of EI. This comprehensive model can be used as a tool for planning and prioritizing resources in bid for providing the required support as this support would reinforce the entrepreneurial opportunity of university students.

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