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## Validating the Entrepreneurial Intention Model on the University Students in Saudi Arabia

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### Abstract

The main objective of this paper is to examine the applicability of Linan and Chen's entrepreneurial intention model (EIM) in predicting the entrepreneurial intention. EIM is an adaptation of the Theory of Planned Behavior that focuses on entrepreneurial intention and hypothesizing slightly different patterns of relationship with regards to subjective norms. The model also includes human capital and demographic factors. Snowball sampling method was used to collect data using the entrepreneurial intention questionnaire (EIQ) through several social media platforms. The survey indicates that the overall entrepreneurial intention of Saudi students is high (mean = 5.41). Eight out of the seventeen hypothesized relationships were found to be significant. Among the demographic variables, gender-personal attitude was significant whereas self employment experience and years of business education were found to be significantly related with perceived behavioral control. The statistical analysis using partial least square structural equation modelling validated the model. All the three antecedents of entrepreneurial intention were significantly related with entrepreneurial intention. The results of this study will help policy makers to get deep understanding into the phenomenon of entrepreneurship among Saudi university students and thereby develop a conducive environment. This study also validates the entrepreneurial intention model in a different cultural context.

**Keywords:** Entrepreneurial Intention, Theory of Planned Behavior, Entrepreneurial Intention Model, Entrepreneurial Intention Questionnaire, Saudi Arabia

**JEL Classification Code:** I23, L26, M13

### 1. Introduction

Entrepreneurship is gaining significant attention across the world because it contributes to the better utilization of resources and overcomes the problem of unemployment. Increasing number of start-ups and nascent ventures are being treated as a benchmark for economic growth. In light of these, new researches are focusing on the factors that determine entrepreneurial behavior in individuals. Intention has been previously been found to be a good predictor of behavior (Rahman, et al. 2020; Choukir, et al. 2019; Kautonen, van Gelderen, & Fink, 2015; Bui, et al. 2020; Bosma, et al. 2008). The youth, especially students, have been the most important subject of entrepreneurship research. The reason is that students make their career choices and a supportive environment may stimulate them to opt for entrepreneurship. Liñán et al. (2011a) point out an important reason why testing intention models are important. They opine that a good understanding of the underlying antecedents can be used to develop an educational environment that facilitates entrepreneurship.

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In Saudi Arabia, the government has identified entrepreneurship as a major facilitator in achieving their transformation plan, famously known as the Saudi Vision 2030. Diversification from the oil-based economy, inducing economic transformation and containing unemployment may all be significantly supported by entrepreneurship. Universities have started introducing courses on entrepreneurship and establishing centers for entrepreneurship and innovation. The government has established a Small and Medium Enterprise Authority (SMEA) called Monsha'at in order to provide necessary support to entrepreneurs. Majority of the banks are offering customized products for small and medium enterprises. There is also emphasis placed on women entrepreneurship. All these steps have resulted in growth of entrepreneurship and an increase in start-ups in the last few years.

The number of studies dealing with entrepreneurial intention (EI) of Saudi students are few (Ali, 2016; Almobaarek, 2012; Choukir et al., 2019). Therefore, this study tries to address this gap by studying the entrepreneurship intention of Saudi university students using the EIM and tested earlier in several countries (Lee-Ross, 2017; Liñán & Chen, 2006; Liñán, et al. 2013; Liñán, et al. 2011a). The paper structure is described as follows. Section 2 discusses the literature review. The research methodology is presented in Section 3. Results and findings are presented in Section 4 and the conclusion is presented in Section 5.

## 2. Literature Review

The literature review suggests that research on EI has been receiving more attention in the recent past (Hongdiyanto, et al. 2020; Vuong, et al. 2020; Amanamah, et al. 2018; Choukir et al., 2019; Ferri, et al. 2018; Jahani, et al. 2018; Miao, 2016; Nabi, et al. 2017; Păunescu, et al. 2018). Fewer studies were found to be based in Arab countries (Aloulou, 2016; Iqbal, et al. 2012; Naushad & Malik, 2018; Almobaarek, 2012).

### 2.1. Theoretical Background

EI has been explained as a mental process of planning business ideas (Gupta & Bhawe, 2007; Boyd & Vozikis, 1994). There is no consensus on the definition of EI in literature. However, the definitions that deem appropriate in context of this research are that EI is “*the intention to start a new business*” (De Pillis & Reardon, 2007) and it is a “*a state of mind that direct attention, experience and action toward a business concept, set the form and direction of organizations at their inception*” (Bird, 1988).

There are various theoretical models that have been identified in the literature that explain the factors influencing entrepreneurial intention. Theory of Planned Behavior (Ajzen, 1991) mainly focused on the psychological traits to explain

intentions. It has been used to explain EI as well (Audet, 2004; Kolvereid & Isaksen, 2012; Krueger et al., 2000; Engle et al., 2010). Luthje and Franke’s model (Lüthje & Franke, 2003) included both personality traits and perceived environmental factors to explain the EIs of individuals. Entrepreneur Event Model (Licht & Siegel, 2009) is another model that explains intention. Its distinction is that it considers perception of the desirability and feasibility to be affecting the intention. Social networking theory (Granovetter, 1973) tries to explain entrepreneurship in terms of social networks. It argues that entrepreneurship can thrive when people have access to business networks (Neergaard, et al. 2005). In a way, it proposes that the degree of social networking also affects the EI.

### 2.2. Entrepreneurial Intention Model

Among the various models of EI, TPB has been used the most, in its original form (Ferri et al., 2018; Krueger et al., 2000; Kolvereid & Isaksen, 2012; Ariff, Bidin, Sharif, & Ahmad, 2010; Autio, Keeley, Klofsten, & Ulfstedt, 1997; Kautonen et al., 2015) or with adaptations (Muhammad, Aliyu, & Ahmed, 2015; Naushad, 2018; Liñán et al., 2013; Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011b). Liñán et al., (2013) categorized studies based on TPB into four different strands namely, “the effect of core TPB elements on entrepreneurial intention; the effect of human and social capital on the TPB elements and EI; the effect of knowledge and awareness of the entrepreneurial environment on TPB elements and EI; cross-cultural research”. The TPB was adapted to develop the EIM that narrowed down the focus of the original model on entrepreneurial intention (Al-Jubari, Hassan, & Liñán, 2019; Francisco Liñán & Chen, 2006; Francisco Liñán et al., 2013; Francisco Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2005). In EIM, the antecedents of EI are called, “personal preference or attraction towards entrepreneurship; the perceived social norms regarding that career option; and, thirdly, the perceived entrepreneurial self-efficacy”. In order to measure the entrepreneurial intention, an instrument called the Entrepreneurship Intention Questionnaire was developed and tested (Liñán, 2005; Liñán & Chen, 2006). The demographic factors or human capital are also included in the EIM.

### 2.3. Human Capital and Demographic Variables

Variables such as “age, gender, skills, personalities, education, knowledge and prior experience” have been termed as human capital (Fitzsimmons & Douglas, 2011; Ferri, et al. 2018). Some studies included all the variables while some considered only a few of them or added new variables. Liñán & Chen (2006) included age, gender, role model, self-employment experience and work experience in the construct named human capital. Work experience and self-employment

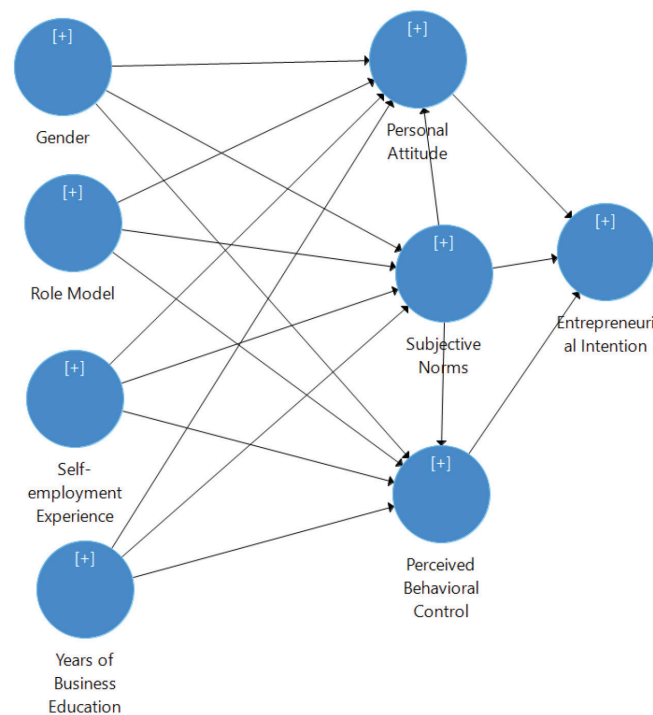
experience were found to be related in other studies (Miralles, Giones, & Riverola, 2016; Soria-Barreto, et al. 2017; Israr & Saleem, 2018). The constituents of human capital have been studied independently or in combination. Gender has been investigated in many studies and most of them concluded that male are more inclined toward entrepreneurship (Ferri et al., 2018; Hongdiyanto et al., 2020). Entrepreneurship education, institutional environment and curriculum have been found to be influencing EI (Lu & Wang, 2018; NGUYEN, 2020; do Paço, et al. 2011; Liñán et al., 2011a; Tran, et al. 2018). Role models have also been found to be positively influencing EI (Amouri, et al. 2016).

## 2.4. Hypotheses

The Entrepreneurship Intention Model (Figure 1) as described in the above section forms the theoretical framework of this study. Age has not been considered in this study as it was not found to be significant in other studies. The hypotheses to be tested are mentioned below.

**H1:** Personal Attitude (PA) positively influences entrepreneurial intention

**H2:** Perceived behavioral control (PBC) positively influences entrepreneurial intention



**Figure 1:** Entrepreneurship Intention Model (Adapted from Liñán & Chen, 2006)

**H3:** Subjective norm (SN) positively influences entrepreneurial intention

**H4:** Gender positively influences the antecedents of EI

**H5:** Role Model positively influences the antecedents of EI

**H6:** Work Experience positively influences the antecedents of EI

**H7:** Business Education positively influences the antecedents of EI

## 3. Research Methods and Materials

The research was conducted using primary data collected mainly through Google Form. The link was shared using social media and also personal contacts of the students. The population included only the students pursuing business programs in Saudi universities. A total of 270 responses received were from different universities of Saudi Arabia. Out of 270 only 250 responses were valid. The data was prepared in SPSS 20.0 and the structural equation modeling was done using SmartPLS (v.3.2.8).

### 3.1. Descriptive Statistics

The descriptive statistics have been summarized in Table 1. The descriptive statistics have been summarized in Table 2. The gender distribution of the sample shows that 65.6% of the respondents were male students whereas 34.4% were female. The maximum concentration of respondents is in the age groups of 19-21 and 22-24 respectively. Majority of the respondents did not have previous self-employment experience (72%), whereas about half of all the respondents knew an entrepreneur to be their role model. Most of the students had received 2-3 years of business education and almost all were pursuing undergraduate programs.

**Table 1:** Descriptive statistics

		Frequency (N = 250)	Percentage
Gender	Male	158	63.2%
	Female	92	36.8%
Self-employment	Yes	70	28.0%
	No	180	72.0%
Role model	Yes	139	55.6%
	No	111	44.4%
Years of business education	1 - 2	168	67.2%
	3 - 4	79	31.6%
	5 & above	3	1.2%

**Table 2:** Reliability and Validity

Construct/ Indicators	Outer Loadings	Composite Reliability	AVE
Entrepreneurial Intention		0.923	0.667
EI1	0.753		
EI2	0.807		
EI3	0.863		
EI4	0.869		
EI5	0.782		
EI6	0.820		
Personal Attitude		0.862	0.565
PA1	0.451		
PA2	0.815		
PA3	0.743		
PA4	0.850		
PA5	0.826		
Perceived Behavioral Control		0.892	0.582
PBC1	0.671		
PBC2	0.824		
PBC3	0.851		
PBC4	0.790		
PBC5	0.756		
PBC6	0.663		
Subjective Norms		0.851	0.658
SN1	0.683		
SN2	0.857		
SN3	0.878		

### 3.2. Measures of EIQ

Entrepreneurial Intention Questionnaire (EIQ) was used for this study. The EIQ was first developed by Linan (Liñán, 2005). It was used and tested in other studies (Liñán & Chen, 2009; Liñán, et al. 2011). The EIQ measures EI on four subscales: “attitudes toward entrepreneurship, subjective norms, perceived behavioral control, and entrepreneurial intention” consisting of five, three, six and six items respectively. All items were measured on a 7-point Likert

scale. The mean score for 6 items measuring entrepreneurial intention was found to be 5.39 which indicates an above average rating. Other studies conducted in the USA and China showed weaker intention for venture creation with mean scores of less than 3.0 on a 5-point Likert scale (Lee, et al. 2006). Another research in Turkey examining actual motivation of small and medium firms found mean score values of less than 3.4 (Benzing, et al. 2009).

### 4. Results and Discussion

The model shown in Figure 1 was entered into the SmartPLS (v.3.2.8) software. PLS algorithm was run with the default basic settings. The analysis was done in two phases. Firstly the measurement model is assessed for reliability and validity (Table 2). And in the next stage, the structural model is assessed. The results of the model had shown that the 16 indicators loadings above 0.7. However, indicators having loading between .4 and .7 may also be retained based on their relationship with the construct (Garson, 2016). In this study only PA1 has values of 0.451 and SN1, PBC1 and PBC2 have values above 0.65. Moreover, bootstrapping routine shows all of the factor loading to be significant. Other reliability and validity measures such as composite reliability and AVE are also shown in Table 3. The constructs are having good internal consistency reliability, composite reliability score above 0.85 (Hair, Ringle, & Sarstedt, 2011). The Average Variance Extracted (AVE) for all the constructs is above 0.5, therefore it exhibits adequate convergent validity (Hair et al., 2011).

As for the discriminant validity, the matrix shown in Table 3 consists of AVE values, the diagonal vales are higher than that of the values below it (Fornell–Larcker criterion), therefore the discriminant validity is adequate (Hair et al., 2011).

In Table 4, all the paths having  $p > 0.05$  are significant and shown with asterisk. Some paths are showing negative values meaning having negative influence such as the subjective norm is negatively influencing entrepreneurial intention. Eight out of the seventeen paths were found to be significant, whereas the rest were not found to be significant. Still, the relationships indicate weak to moderate degree of strength. Among the demographic variables, gender was found to have significant relationship with personal attitude only. Self employment experience (SEE) and years of business education (YBE) both were found to have significant relationship with perceived behavioral control (PBC).

Once the reliability and validity of measurement model is established, analysis may proceed to next stage of structural model. In this stage coefficient of determination (R-square) for endogenous variables, path coefficients and statistical significance through bootstrapping are analyzed. In Figure 2, values inside the circle are for R- square and can be described as moderate to weak (Hair et al., 2011).

**Table 3:** Discriminant validity

	EI	G	PBC	PA	RM	SEE	SN	YBE
Entrepreneurial Intention (EI)	0.817							
Gender (G)	-0.002	1.000						
Perceived Behavioral Control (PBC)	0.428	-0.058	0.763					
Personal Attitude (PA)	0.541	-0.136	0.242	0.751				
Role Model (RM)	0.207	0.036	0.204	0.012	1.000			
Self-employment Experience (SEE)	0.114	0.088	0.214	0.058	0.037	1.000		
Subjective Norms (SN)	0.006	-0.070	0.111	0.216	-0.088	0.018	0.811	
Years of Business Education (YBE)	0.043	-0.233	0.231	0.073	0.146	-0.011	0.026	1.000

**Table 4:** Structural Equation Modelling results

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Gender → PBC	-0.029	-0.030	0.063	0.456	0.649
Gender → PA	-0.120	-0.120	0.057	2.087	0.037*
Gender → SN	-0.063	-0.069	0.081	0.779	0.436
PBC → EI	0.324	0.326	0.057	5.679	0.000*
PA → EI	0.492	0.494	0.059	8.374	0.000*
RM → PBC	0.179	0.182	0.064	2.778	0.006
RM → PA	0.027	0.026	0.066	0.408	0.684
RM → SN	-0.090	-0.096	0.076	1.185	0.237
SEE → PBC	0.210	0.211	0.057	3.712	0.000*
SEE → PA	0.064	0.065	0.058	1.119	0.264
SEE → SN	0.027	0.020	0.068	0.401	0.688
SN → EI	-0.136	-0.131	0.059	2.304	0.022*
SN → PBC	0.116	0.111	0.073	1.591	0.112
SN → PA	0.208	0.213	0.094	2.216	0.027*
YBE → PBC	0.197	0.196	0.063	3.109	0.002*
YBE → PA	0.036	0.038	0.060	0.607	0.544
YBE → SN	0.025	0.028	0.072	0.343	0.731

## 5. Conclusions

The results largely validated the predictive power of the EIM in the context of Saudi university students. This is consistent with a growing body of empirical evidence from a variety of cultural and institutional contexts, such as Spain (Miralles et al., 2016), UK and Spain (Liñán et al., 2013), Portugal (do Paço et al., 2011), Australia (Lee-Ross, 2017). Out of the three components of the EIM, perceived behavioral control

shows relatively higher impact on entrepreneurial intentions. Subjective Norms and Personal Attitude too exhibit positive relationships with EI. All the three antecedents of EI namely PA, PBC and SN were found to have significant relationships with EI. An interesting finding in this study is about SN. SN has been showing conflicting results in the previous studies, mainly insignificant relationship with EI (Krueger et al., 2000). In this study, we found that SN also affects PA which is in line with results of other studies (Liñán et al., 2011).



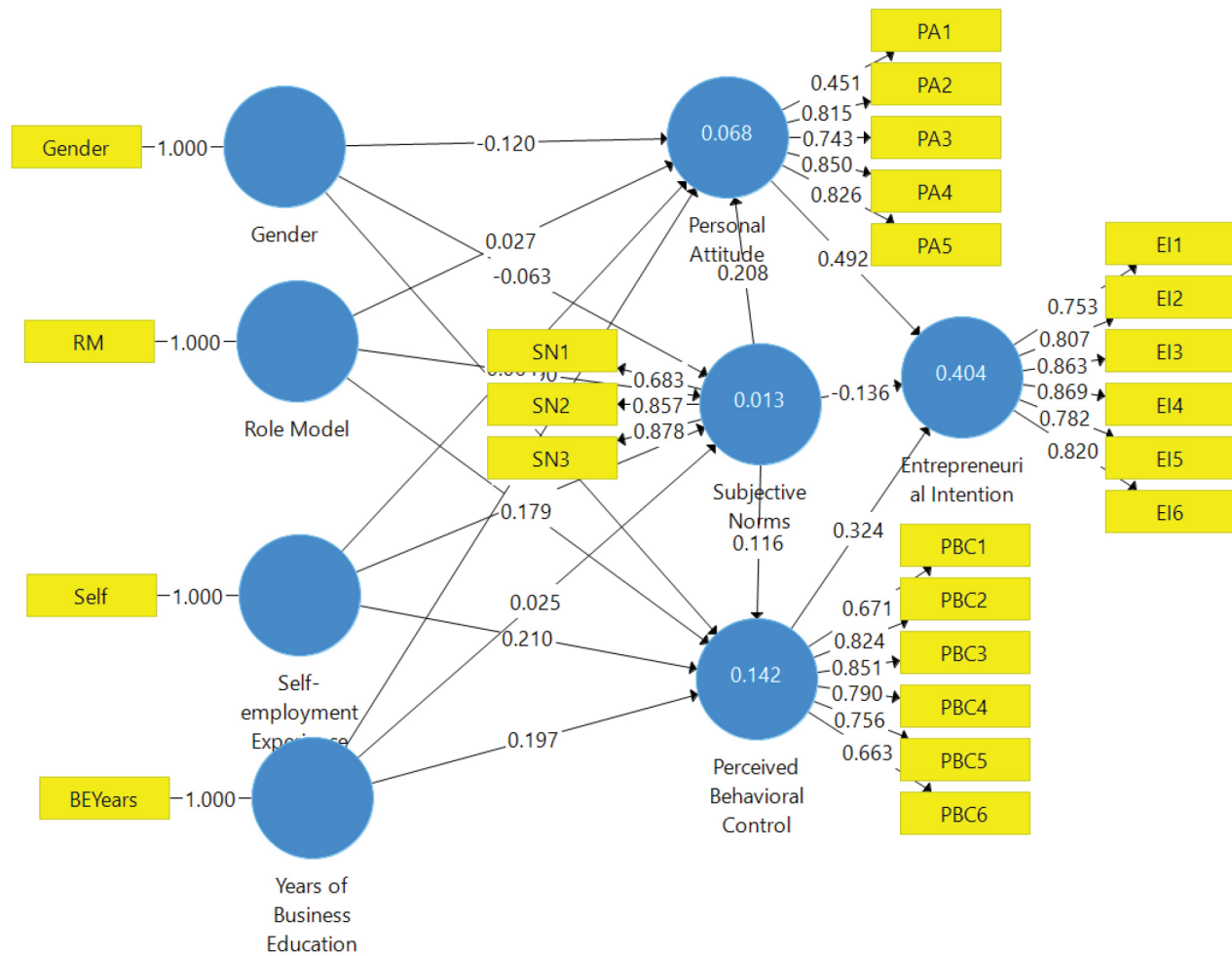


Figure 2: SEM Results

Demographic and human capital variables have not shown much significant effects on the antecedents of EIM, with the exceptions of Gender-PA, SEE-PBC and YBE-PBC being significant. Similar findings have been reported earlier (Liñán, 2005). Gender was found to be just affecting PA. Earlier a study conducted at King Saud University in Saudi Arabia presented a different finding regarding gender (Almobaireek, 2012). They found that gender was a strong moderating factor that affected EI. Role model, Self-employment experience and Number of years of business education were found to be significantly affecting Perceived Behavioral Control and no other antecedents of EI. In a study, positive relationship was found between business courses and entrepreneurship (Yusof, Sandhu, & Jain, 2007). The positive effect of self-employment experience on SN was reported in other studies (Almobaireek, 2012; Liñán & Chen, 2006).

The results of this study are quite significant for understanding the dimensions of EI of university students in Saudi Arabia. A correct understanding of the EI of students would help in nurturing them adequately that would eventually make it easy for them to become entrepreneurs. Of course, there are still many factors that may prove to be a barrier for students to take up entrepreneurial roles even though they had high EI. This is an important area of further research.

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