ROLE OF ENTREPRENEURIAL EDUCATION IN PREDICTING STUDENTS' ENTREPRENEURIAL INTENTION IN NIGERIAN UNIVERSITIES

By

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ABSTRACT

This study aims to examine entrepreneurial role model as one of the factors that influence entrepreneurial intention. The study is underpinned by the Theory of Planned Behaviour (TPB) and Social Learning Theory (SLT). Using cross-sectional survey research design with multi-stage sampling technique, data were collected from 290 final year undergraduates of two universities in Bauchi State and analysed using IBM SPSS Statistics 25 and Partial Least Structural Equation Modelling (PLS-SEM) technique. Despite the weak explanatory power of the study model as evidence by 33.5% coefficient of variation, the study yields some interesting findings. The hypotheses testing results showed that entrepreneurial attitude, perceived behavioural control and entrepreneurial role model have a positive and significant influence on students' intention for self-employment. However, entrepreneurship education and subjective norm do not have a statistical influence on their intention. Perceived behavioural control of the students has the greatest influence on their entrepreneurial intention. The study concluded that entrepreneurial role model had a great role as an antecedent of students' intention for self-employment. In the end, the study offered theoretical, managerial, methodological implications and directions for future research.

Keywords: Akaike information criteria (AIC), entrepreneurial intention, entrepreneurial role model, PLSpredict

1.0   INTRODUCTION

Entrepreneurship is seen as a solution to unemployment and a contributor to economic activities, as a result, a lot of attention is given to its development by researchers and policymakers. Youth unemployment and its attendant consequences in Africa has been a source of concern to the socio-economic development of these countries. Statistics show that unemployment rates differ across Africa. North Africa and South Africa recorded youth unemployment rates of between 30.7% (Tunisia) in 2005 and 54.2% (Reunion) in 2012. Nigeria is said to have a population of 167 million people as of 2012 (NBS, 2016). Half of the said population then were said to be youth, unfortunately as the population grows so also the unemployment rate does. The unemployment rate in Nigeria stands at 7.5% in 2012, whereas 16.6% were said to be underemployed (Ogbuagu & Benjamin, 2017). Youth unemployment rates are higher among educated than the less educated or uneducated in Africa (Baah-Boatang, 2016), similar observations were made in Indonesia (Choudhry, Marelli, & Signorelli, 2012). More alarming is the fact that the labour market in Nigeria can absolve only 33.3% of the total graduates every year (NBS, 2017).

As a result of the high rate of unemployment witnessed by these African countries, a lot of social unrests that negatively affect the socio-economic wellbeing of these countries are recorded. Some of this youth restiveness is mostly out of agitations for lack of jobs and certainty in life, and they include yahoo boys, terrorism, kidnapping for ransom, xenophobic attacks and vandals. Nigeria is said to have been negatively and substantially affected economically by the activities of this youth restiveness. Engaging in meaningful economic activities can overturn these ugly trends, this calls for a change in the behaviour of most of these youth to shun sharp practices and embrace lawful businesses. The returns on most of the legitimate businesses may be smaller but steady and promisingly enriching. But the desire, support and confidence to look inward and employ oneself is something the youth should do to.

Intention is the most important immediate determinant of behaviour, it is the precursor to actions, entrepreneurship included. Therefore, for these targeted youth to embrace entrepreneurship, they need to have a favourable thought about it, the support and confidence needed to undertake such ventures. Starting a new business requires that one perceives opportunity in the form of unfulfilled need, assembles resources to take advantage of the perceived opportunity, decides the market niche to satisfy and assuming the inherent risk, properly exploits that opportunity. Intention which is an individual's precise tendency to perform an action or a series of actions is rooted from conscious thinking that directs behaviour, and it is said to be the reasoning state immediately before executing a behaviour (Ajzen, 1991). Additionally, Kim and Hunter (1993) posit that attitudes predict intentions and intentions predict behaviour. Entrepreneurial intention (EI), therefore, is that state of mind that stimulate one's attention and willingness to be self-employed, rather than being employed by others.

Several factors influenced EI. Attitude of an individual toward a particular thing greatly affects his intention on that phenomenon. Attitude refers to an individual's evaluation of an event or behaviour. Where an individual's appraisal of entrepreneurship is favourable, he or she is most likely to form a strong intention on venturing into a new business. The desirability or otherwise can be due to one's need for autonomy, attitude toward risk, optimism, innovativeness and need for achievement, and ability to control resources among other factors (Izedonmi & Okafor, 2010; Autio, Keely, Klofsten, Parker, & Hay, 2001). Entrepreneurial attitude (EA) implies the positive or negative valuation of an individual to become an entrepreneur.

Subjective norm (SN) is another important factor influencing intention. SN entails the amount of influence those people that matter much to an individual have on his decision to act in a particular manner. Studies have shown that what people that matters to an individual in life think about venturing into a business has a significant impact on his intention to either form a business or not. Perceived behavioural control (PBC) significantly influences the intention to start a business. It refers to the individual's personal belief on his or her competence and it is a belief that he can do something of his choice. PBC can be influenced by the presence of role models, partners, obstacles, financial and social support, education, confidence in one's ability to perform entrepreneurial tasks, or perceived availability of resources needed to create a business (Ozaralli & Revinburgh, 2016).

The entrepreneurial role model (ERM) concept explains the process of learning by inspiration, motivation and example and it has been applied to entrepreneurship research to explain why individuals whose parents are entrepreneurs become entrepreneurs (Liñán, Urbano, & Guerrero, 2011). The children of entrepreneurial parents have more than a role model, they also have information that is unavailable to children whose parents did not start or purchase a firm (Chlosta, Patzelt, Klein, & Dormann, 2012). Debarliev, Janeska, Bozhinovska and Ilieva (2015) also confirms that the presence of the ERM was associated with increased education and training aspirations, task self-efficacy, and expectancy for an entrepreneurial career.

Bearing in mind the importance of entrepreneurial ventures for the economy, several efforts have been made to help in understanding the entrepreneurs, the processes and factors that motivate the creation of entrepreneurial ventures (Debarliev *et al.*, 2015). Weerakoon and Gunatissa (2014) stated that higher institutions have a significant role in initiating entrepreneurship in the 21st century. It is also our impression that the career preferences of university students can be influenced, and that university students tend to fall toward fashionable career options. An investigation into factors that enhances EI, especially among university students is imperative, to re-enforce those factors and reduce unemployment.

Previous entrepreneurship studies have advanced our knowledge of how EI was influenced by variables such as EA, SN, self-efficacy, EE, entrepreneurial passion, team cooperation, entrepreneurial motivation and time (e.g. Doan & Phan, 2020; Liu, Lin, Zhao, & Zhao, 2019). However, the empirical understanding of how ERM relates to EI is still lacking in the existing literature (Abbasianchavari & Moritz, 2020). Based on that, Li and Wu (2019) recommend that personal role model as an antecedent of EI should be investigated.

Consequently, this study seeks to fill this gap by examining factors influencing the EI of university undergraduate viz-a-viz EA, SN, PBC, EE and ERM.

2.0   LITERATURE REVIEW
2.1   Theoretical/Conceptual Review

The TPB underpins this study. TPB originates from the Theory of Reasoned Action (TRA) developed by Ajzen and Fishbein in 1980 (Ajzen, 1991). It is regarded as the most influential and popular framework for the prediction of human behaviour (Ajzen & Madden, 1996). The TPB suggests that behaviour is the function of intentions whose individual attitudes, SN and perceived control predict intentions.

The TPB has the assumption that: (a) behaviour is based on the concept of intention (b) people are more likely to do something if they planned or aim to do it than if they don't (c) intention is influenced by attitude, SN and PBC. The TPB has been used to predict and explain a range of human behaviours, such as voting decisions, the problem of drunkenness, and losing weight to leisure intentions and taking physical exercise (Ajzen, 1991). In general, the empirical tests suggest that the greater degree to which the behaviour can be controlled, the greater is the influence of intent on eventual behaviour (Gelderen *et al.*, 2008).

In this article, Social Learning Theory (SLT) served as the supportive theory that justifies the inclusion of ERM. SLT (Bandura, 1986) suggests that individuals learn by observing the actions of their others and transferring the cues thereby internalizing those codes. These internal codes form part of the offspring's mental model and determine their decision policies. SLT has demonstrated sound predictive capacity across a variety of life situations, including career selection (Chlosta *et al.*, 2012; Peng, Lu, & Kang, 2012). The theory has the following main assumptions that: (a) people as social being learn by observing the behaviour of others and the outcome associated with that behaviour (b) reworded behaviours are repetitive (c) cognitive processes such as attention, motivation, the expectation of reward or punishment play an important role in learning

In recognition of the relative support for SLT on entrepreneurship research and its underlying principle that individuals learn behaviour from role models such as renowned individuals, previous colleagues, or relatives via observation, inspiration and imitation, it is predicted that this theory would provide support for the decision of graduates to form their businesses.

2.1.1 Entrepreneurial intention (EI)
The central construct of the theory of planned behaviour (TPB) is the individual's intention to perform a certain behaviour. This intention is traditionally derivative to be influenced by individual's attitudes, SN, and PBC.

2.1.2 Entrepreneurial attitude (EA)
The attitude people hold towards the behaviour is the result of their evaluations of the outcomes associated with the behaviour and the strength of the associations with these evaluations. Studies indicate that salient beliefs concerning autonomy, authority, economic opportunity and self-realization, independence, self-actualization and financial success influence the attitude towards entrepreneurship (Autio *et al.*, 2001).

2.1.3 Subjective norms (SN)
SN refer to perceived social pressure to perform or not perform the behaviour (Ajzen, 1991). SN derive from readily accessible normative beliefs regarding the expectations of significant others (Ajzen, 2002). Important referents may include a person's parents, spouse, close friends, co-workers and even experts in the behaviour of interest. According to Ajzen (2002), whether social referents themselves engage or do not engage in a particular behaviour influences perception regarding whether that behaviour is approved or disapproved.

2.1.4 Perceived behavioural control (PBC)
PBC refers to individuals' assessments of the degree to which they are capable of performing a given behaviour (Ajzen, 2002). PBC owes its roots to the concept of self-efficacy (Ajzen, 1991). PBC is determined by control beliefs concerning the availability of factors that can enable or hinder the performance of the behaviour. These factors could be internal or external and include among others the availability of resources and opportunities, experience with the behaviour, second-hand information about the behaviour, observing the experiences of acquaintances.

2.1.5   **Entrepreneurial education (EE)**

EE is the type of education design to develop and improve entrepreneurial inspiration, awareness, knowledge and vocational skills that are essential for successfully take off and managing an entrepreneurial firm (Ozaralli & Rivenburgh, 2016). Izedonmi and Okafor (2010) were of the view that the Nigerian government should make entrepreneurship education a compulsory course throughout the Nigerian schools. To them, this will help to influence the youth's attitude towards entrepreneurship.

2.1.6   Entrepreneurial role model (ERM)

ERM is the influence of entrepreneurs of different types and characteristics. This includes renown individuals, previous colleagues, or relatives (Abbasianchavari & Moritz, 2020).   Among the many potential role models that influence an individual's social learning, parental role model is particularly relevant, since children are especially exposed to their parents' behaviours (Chlosta *et al.*, 2012). Chlosta *et al.* (2012) also define entrepreneurial families as those with a heritage of entrepreneurship and business ownership. This includes at least one self-employed parent owning and managing a business within an entrepreneurial family. Looking at the social dynamics of entrepreneurship, individual's family is one of the informal institutions that impact on the individual's EI. The individuals are influenced by the even more immediate social environment characterized by closer links to family or friends and relatives (Ozaralli & Rivenburgh, 2016).

2.2   **Empirical Review**

2.2.1   **Entrepreneurial attitude and entrepreneurial intention**

Gelderen *et al*. (2008) conducted an empirical investigation on the EI of business students. The authors employed the TPB, in which intentions are regarded as a result of EA, PBC, and SN. The study uses a sample of 1225 undergraduate students of business administration at four different universities. Before the main study, qualitative research conducted at two different universities on a sample of 373 students was held to operationalize the components of TPB. The results show that the two most important variables to explain EI are entrepreneurial alertness (it measures PBC) and importance attached to financial security (it measures EA). The study recommended further studies to use a sample of students other than that of business.

2.2.2   **Subjective norms and entrepreneurial intention**

Peng *et al.* (2012) conducted a study on EI and its influencing factors; based on a survey of 2010 senior students from nine Universities in Xian, China. The result shows that student's perceived SN has a positive effect on the EA and entrepreneurial efficacy and EIs. The study uses SEM to verify the relationship between the EI of university students and their influencing factors as against descriptive statistics; variance analysis, regression analysis, cluster analysis, and path analysis, which are used to discuss the linear relationship between independent variables and dependent variables and are hard to present the relationship between variables as a whole. The study found an insignificant relationship between parental role model and intention. Equally, Malebana (2014) examine the EI on the sample of 329 graduating students in Limpopo province, South Africa. It was a survey study and SPSS was used to analyse the data. The study outcome shows that among others SN is a positive predictor of EI.

2.2.3   Perceived behavioural control and entrepreneurial intention

Debarliev *et al.* (2015) conduct research to examine the effects of the three motivational factors/intention antecedents proposed in the TPB: EA, SN and PBC, including a control group of variables on the EI in a specific cultural setting in the Republic of Macedonia. A number of 440 respondents from, university students, formed the sample size. Hypotheses were tested from the data collected by using hierarchical regression. The three independent variables: EA, SN and PBC were found to have a positive impact on EI. However, results only partially support the influence on the control variables. Besides, Weerakoon and Gunatissa (2014) conducted a study to identify the antecedents of the EI using a sample of 209 students in Sri Lanka. Data was analysed using Binary Logistic Regression and the result confirmed that the higher the perceived feasibility the higher the chances of EI among the students.

2.2.4   Entrepreneurial education and Entrepreneurial Intention

Although several studies on EE and EI were carried out (Debarliev *et al.*, 2015; Klapper & Jarniou, 2006). Li and Wu (2019) investigate the influence of team cooperation on the relationship between EE and EI on 221 undergraduates in China. The study found that of the EE was positively related to EI. Similarly, in the study of Doan and Phan (2020) that examine the empirical link between EE, entrepreneurial self-efficacy, entrepreneurial passion, time, team cooperation and EI among 668 Vietnamese students. Data analysis with PLS-SEM technique shows that EE had a positive and significant influence on EI

2.2.5   Entrepreneurial role model and entrepreneurial intention

Chlosta *et al*. (2012) use social learning theory to examine the influence of parental role models in entrepreneurial families. The study considered paternal and maternal role models and examines their effects on the children's intention for self-employment using data of 461 alumni in the eight German based varsities. The study revealed that parental role model on EI is positively moderated by the student's openness.

Based on the foregoing empirical studies, we hypothesized the following relationships:

H_1:   Entrepreneurial attitude has a positive and significant influence on entrepreneurial intention.

H_2:   Subjective norm has a positive and significant influence on entrepreneurial intention.

H_3:   Perceived behavioural control has a positive and significant influence on entrepreneurial intention.

H_4:   Entrepreneurship education has a positive and significant influence on entrepreneurial intention.

H_5:   Entrepreneurial role model has a significant influence on entrepreneurial intention.

3.0   METHODOLOGY
3.1   Research Design
The study adopted a quantitative approach and a cross-sectional design. This is because it allows gathering information about a large number of individuals or objects by studying a representative sample at one point in time using a questionnaire. The data was gathered using a structured questionnaire once within the period of November-December, 2017.

3.2   Population of the Study
The total population constitute 3, 669 final year students of Abubakar Tafawa Balewa University Bauchi (ATBU) and that of the Bauchi State University (BSUG) as obtained from MIS DICT ATBU Bauchi and Registry Unit BASUG (August, 2017) respectively. The total number of final year students from the six faculties in ATBU is 3,006 which can be broken down as: faculty of science, 486 students; faculty of Agriculture and agricultural technology 106; environmental technology, 842; engineering and engineering technology, 552; management sciences, 360 and; technology education, 663 students. Medical college in ATBU Bauchi which made the 7th faculty is yet to have its final year students. On the other hand, BASUG has five faculties, two of which, the faculty of law and faculty of basic science, are yet to have students in the final year, as at November, 2017. The total number of final year students from the three faculties in BASUG is 663 which can be broken down as: Faculty of science 144 students; faculty of social and management sciences with 297 students and faculty of arts and education, 222 students.

3.3   Sample and Sampling Technique
This study used Krejcie and Morgan (1970) table to draw a sample of 350 using multi-stage random sampling (MSRS) technique. The reason for selecting MSRS is to ensure fair representativeness of the sample relative to the population and guarantees that minority constituents of the population. According to Creswell (2012), sample characteristics are better approximations of the population characteristics and reduce sampling error compared with the case of simple random sampling.

3.4   Analytical Strategy
In this study, partial least square structural equation modeling (PLS-SEM) using SmartPLS 3 (Ringle, Wende, & Becker, 2015) was employed. The bases for choosing this technique over CB-SEM is on the study's aim of predicting a key target construct i.e. EI (Hair, Ringle, & Sarstedt, 2011).

4.0   RESULTS, INTERPRETATION AND DISCUSSION
4.1   Data Screening and Preliminary Analysis
The data for this study were collected within November 2017 and December 2017. A total of 350 surveys, self-reported questionnaires were distributed among the final year students of the two universities in Bauchi State. Out of the 350 questionnaires issued, 323 were returned, which yielded a response rate of 92%. Sekaran (2011) considered a 30% response rate sufficient for surveys.

Initial data screening which is key to any multivariate analysis to ensure all possible non-violation of the assumptions regarding the application of multivariate techniques of data are identified (Hair, Babin, & Anderson, 2010). Ahead of the data screening, 323 were coded and entered into SPSS. Besides, all negatively worded items (PBC2, PBC5, and EI3) in the questionnaires were reversed scored. After data coding and entry, error in entries was checked.

4.2 Missing Value Analysis and Outlier Test

Nine cases with missing above 10% were automatically deleted. Other cases that have missing values of less than 5% were maintained and replaced by their mean value through series mean method in SPSS. Tabachnick and Fidell (2007) suggested that mean substitution is the easiest way of replacing missing data that is 5% or less. Missing values on five items (EA6, EA7, SN1 and SN3) with less than 5% were replaced by their mean value.

The univariate and multivariate outliers were detected to minimize errors of generalizability of results (Tabachnick & Fidell, 2007). 12 cases with standardized values (z-score) above the threshold of $\pm$ 3.29, classified as univariate outliers, were deleted. Besides, 12 multivariate outliers were also detected using Mahalanobis distance (D^2). The cases have chi-square value above ($\chi^2 = 66.62, p < 0.001$) for 35 items. Thus, after removing the multivariate outliers, the final dataset in this study was 290.

4.3 Characteristics of Respondents

Table 1 depicts the demographic profile of the respondents in the sample. The demographic characteristics examined in this study include gender, age, and faculties of study of the respondents. The table shows that male respondents have higher participation of 201 (69%) over their female counterparts with 89 (31%).

Table 1: Characteristics of Respondents

| Demography		Frequency	Percentage
Gender	Male	201	69.3
	Female	89	30.7
Age	18-25 years	134	46.2
	26-35 years	131	45.2
	36-45 years	22	7.6
	46-55 years	2	0.7
	56 years & Above	1	0.3
Faculty	Science	49	16.9
	Engineering	57	19.7
	Agriculture	20	6.9
	Environmental	41	14.1
	Management & Social Sciences	70	24.1
	Art & Education	53	18.3

In terms of age bracket, 134 students (46.1%) were between ages 18-25 years. 131 students (41.1%) fall between ages 26-35 years. Ages bracket 36-45 and 46-55 have 22(7.7%) and 2(0.7%) students respectively. And lastly, 1 student (0.3%) of the sample falls between age ranges 56 and above.

In terms of faculty distribution, 49 students (16.9%) were from science, 57 students (19.7%) were from engineering, 20 students (6.9%) were from agriculture, 41 students (14.1%) were from environmental, 70 students (24.1%) were from management and social sciences while 53 students (18.3%) were from art and education. This implies that the sample had relative faculty representation.

4.4   Assessment of Measurement (outer) Model

The measurement model assesses the relationship between a latent construct and its observed indicators. Indicators with outer loadings between 0.40 and 0.70 were removed from the scale as deleting these indicators led to an increase in the AVE and CR above the threshold value. The retained indicators were shown in Figure 1.

Figure 1: Final Algorithm Result
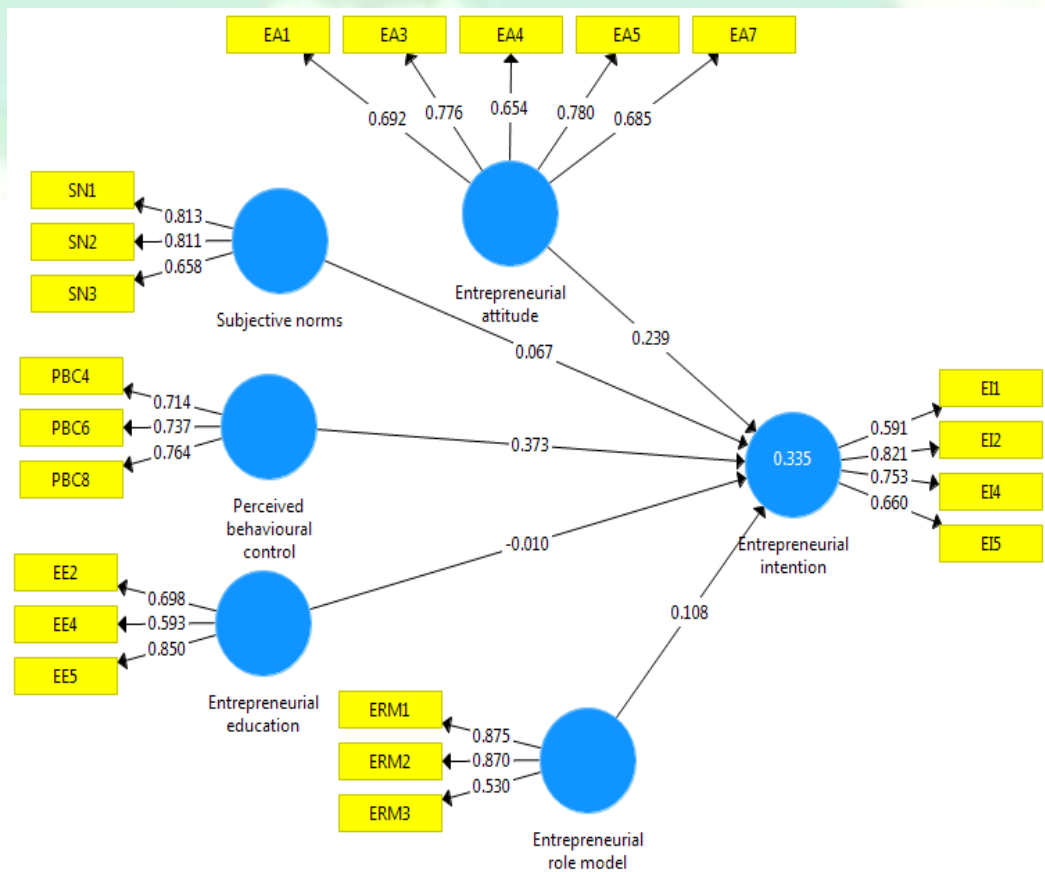
4.4.1   Indicator reliability

As presented in Table 2, the indicator reliability of our model was achieved as all the values for their outer loading were above the accepted threshold of 0.4.

Table 2: Internal Consistency Reliability and Convergent Validity

Construct	Code	FL	CR	AVE
Entrepreneurial intention	EI1	0.591	0.802	0.506
	EI2	0.821		
	EI4	0.753		
	EI5	0.660		
Entrepreneurial attitude	EA1	0.692	0.842	0.517
	EA3	0.776		
	EA4	0.654		
	EA5	0.780		
	EA7	0.685		
Subjective norms	SN1	0.813	0.807	0.584
	SN2	0.811		
	SN3	0.658		
Perceived behavioural control	PBC4	0.714	0.783	0.546
	PBC6	0.737		
	PBC8	0.764		
Entrepreneurial education	EE2	0.698	0.761	0.521
	EE4	0.593		
	EE5	0.850		
Entrepreneurial role model	ERM1	0.875	0.812	0.601
	ERM2	0.870		
	ERM3	0.530		

FL= factor loadings, CR= composite reliability, AVE = average variance extracted

4.4.2 **Internal consistency reliability**

Internal consistency reliability refers to the extent to which all items on a particular scale are measuring the same concept. In Table 2, it can be seen that all latent variables have composite reliability above the recommended threshold of 0.70 (Hair, Hult, Ringle, & Sarstedt, 2017).

4.4.3 **Convergent validity**

Convergent validity seeks to ensure that a construct is one-dimensional, which is to say that there is a reasonable degree of agreement among the indicators measuring the same construct. Table 2 exhibited that AVE was above the accepted value of 0.5 for all constructs, indicating adequate convergent validity (Hair *et al.*, 2017).

4.4.4 **Discriminant validity**

Discriminant validity refers to the extent to which a particular latent construct differentiates itself from other latent constructs. For example, the extent to which EI differs from an EA is what discriminant validity describes. This study's discriminant validity was ascertained as evidenced by HTMT values in Table 3, which were lower than 0.85 threshold for dissimilar constructs (Frank & Sarstedt, 2019).

Table 3: Heterotraitmonotrait (HTMT) correlations

Construct	1	2	3	4	5	6
1. Entrepreneurial attitude						
2. Entrepreneurial education	0.127					
3. Entrepreneurial intention	0.553	0.233				
4. Entrepreneurial role model	0.099	0.441	0.313			
5. Perceived behavioural control	0.652	0.411	0.830	0.339		
6. Subjective norms	0.341	0.479	0.386	0.277	0.588	

4.5   Assessment of Structural (Inner) Model

Having ascertained the requirement for the measurement (outer) model, the next logical step is to assess the structural (inner) model. The analysis of the variance inflation factor (VIF) in Table 4, with figures less than 3, has shown the absence of multicollinearity.

Figure 2: Bootstrapped Result
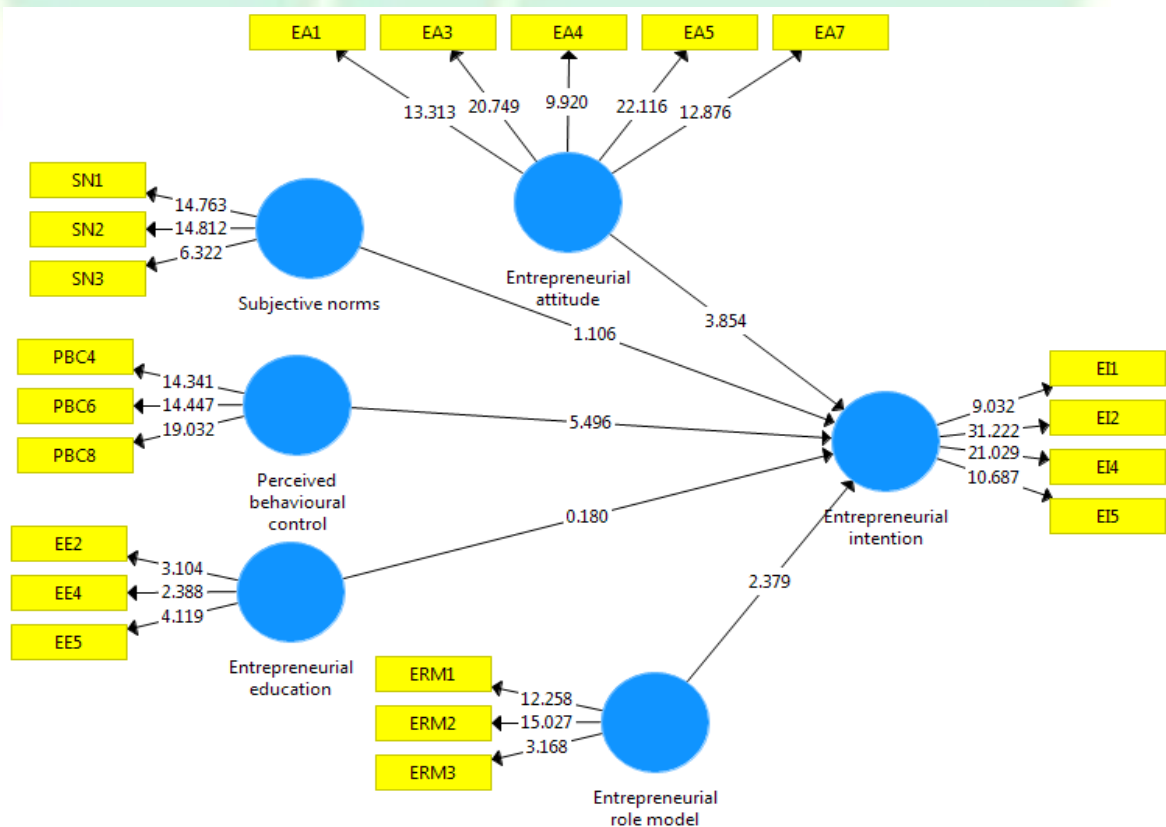
4.5.1   In-sample predictive capability

Based on this study, the results in Table 4 shows the R^2 value of 0.335 on EI. This shows that 33.5% of the proportion of variation in EI can be explained by our five predictor variables collectively. Hair *et al.* (2011) recommends small R-squared value to be above 0.25 but less than 0.5.

Effect size f^2 indicates the relative effect of a particular exogenous latent variable on endogenous latent variable using changes in the R-squared value. The results in Table 4 show small effects on EA (0.064) and PBC (0.143) respectively (Cohen, 1988).

Table 1: Multicollinearity, Coefficient of Determination, Effect Size and Predictive Relevance

Effect size	VIF	R^2	f^2	Q^2
Entrepreneurial intention		0.335		0.155
Entrepreneurial attitude	1.265		0.068	
Subjective norms	1.215		0.006	
Perceived behavioural control	1.457		0.143	
Entrepreneurial education	1.165		0.000	
Entrepreneurial role model	1.112		0.016	

Stone-Geisser's test of predictive relevance Q^2 is used to ascertain the accuracy of a reflective measurement model predicting the data points of our indicators endogenous construct through blindfolding procedure (Hair *et al*., 2017). As shown in Table 4, the cross-validated redundancy was greater than zero ($Q^2 = 0.155$). This implies that there is enough evidence of predictive relevance of the model.

4.5.2 Out-of-sample predictive capability

In line with the Shmueli *et al.* (2019) propositions, we run PLSpredict algorithm developed by Shmueli, Ray, Velasquez Estrada and Chatla (2016) with 10-folds cross-validation and ten repetitions. As shown in Table 5, the model has medium out-of-sample predictive power as indicator's $Q^2_{predict}$ values were above zero and majority of indicator's predictive error were lower than the naive Linear Model (LM) benchmark.

Table 5: PLSpredict Analysis

		RMSE	
	$Q^2_{predict}$	PLS	LM
EI1	0.069	*0.908*	*0.939*
EI2	0.219	*0.855*	*0.860*
EI4	0.166	0.739	0.727
EI5	0.122	*0.844*	*0.877*

4.5.3 Model section criteria

As shown in Figure 3, we compare our proposed model with five predictors against the two older versions of antecedents of EI with Akaike Information Criteria (AIC) as explained in Danks, Sharma and Sarstedt (2020). As such, our proposed model outperformed the earlier models with the least AIC of -107.50.

Figure 3: Model Selection Based on AIC
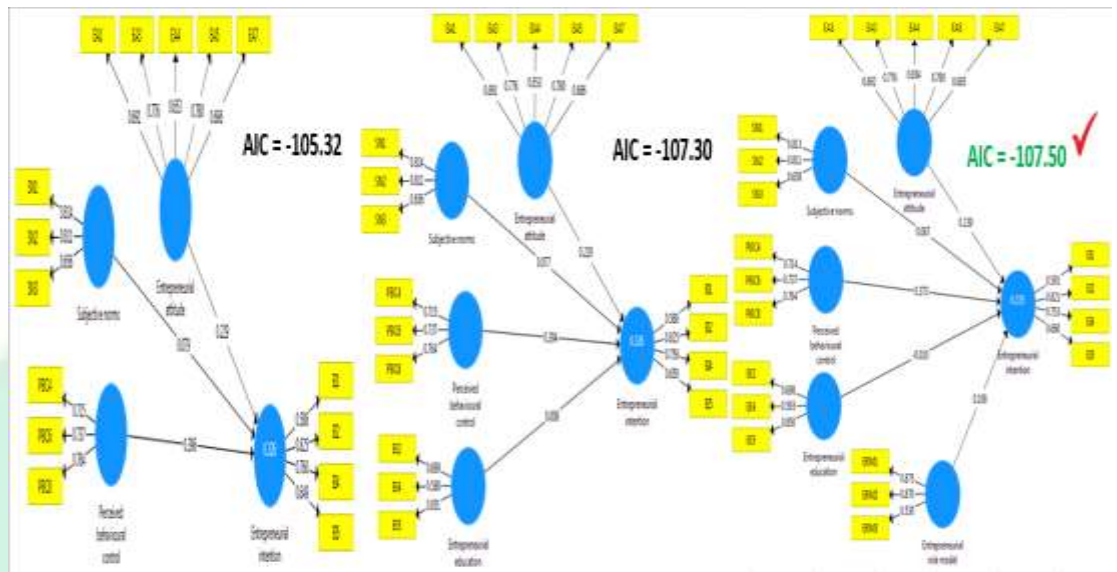
4.5.4 **Hypotheses testing**

Structural path coefficients stand for the hypothesized relationships among the model constructs. In obtaining the *t*-statistics for our beta values, we used Hair *et al.* (2017)'s recommendation for using a standard bootstrapping procedure with 5,000 subsamples.

Table 6: Result of Path Analysis

Hypothesis	Relationship	Beta	Standard Error	t value	p value	Confidence interval		Decision
H₁	Entrepreneurial attitude -> Intention	0.239	0.062	3.85	0.000	0.149	0.355	Supported
H₂	Subjective norms -> Intention	0.067	0.061	1.11	0.134	-0.027	0.174	Not supported
H₃	Perceived behavioural control -> Intention	0.373	0.068	5.50	0.000	0.248	0.475	Supported
H₄	Entrepreneurial education -> Intention	-0.010	0.057	0.18	0.429	-0.081	0.103	Not supported
H₅	Entrepreneurial role model -> Intention	0.108	0.045	2.38	0.009	0.039	0.186	Supported

The result in Figure 2 and Table 6 shows that EA, PBC and ERM with beta values of $\beta = 0.239, \beta = 0.373$ and $\beta = 0.108$ respectively have a statistically positive and significant influence on the EI at 5% level one-tail $(t > 1.65, p < 0.05)$. This suggests that when EI increase by one unit, EA, PBC and ERM will rise by 23.9%, 37.3% and 10.8% respectively. While SN and EE with beta values of $\beta = 0.067$ and $\beta = -0.01$ respectively showed insignificant influence.

5.0   DISCUSSION

This study found empirical support for some relationship of the existing TPB. First, EA of undergraduate of the ATBU and BASUG have a direct influence on their EI. It equally shows that the students under study have a favourable attitude toward starting their businesses. Also, empirical backing was found in the literature on the positive effect of EA on EI in various settings (Debarliev *et al.*, 2015; Ozaralli & Rivenburgh, 2016; Peng *et al.*, 2012; Weerakoon & Gunatissa, 2014). On the contrary, our study found that EI of ATBU and BASUG undergraduate is not shaped by SN, which is not in line with TPB and other empirical studies with positive and significant findings (Peng *et al.*, 2012; Debarliev *et al.*, 2015; El-Gohari, Selim, & Eid, 2016). However, the study of Autio *et al.* (2001) that examined US students had a similar outcome with our study. This can be justifiable because Nigerian youth are now becoming more of individualistic mindset where key decisions largely dependents on individual personal conviction not minding what the family and friends care about as against collectivism. Second, our study was able to empirically establish a strong direct link between PBC and EI of ATBU and BASUG undergraduate as espoused in TPB. This finding concurs with that of Weerakoon and Gunatissa (2014) Gelderen *et al*. (2008) and Debarliev *et al*. (2015). Again, EE was found to have no statistical effect on EI. Two factors could be responsible. First, the student perception of EE might be for grade gratification without the deeper thought of implementing the learning outcome in their real life. Second, the current entrepreneurship syllabus was less inspirational to trigger the intention of self-employment. Nevertheless, our result showed that the newly added construct, i.e. ERM was a predictor of EI.

5.1   Conclusion

The major objective of this study is to examine the effect of ERM on undergraduates' intention for self-employment. Based on the outcome of the study, it was concluded that ERM plays a vital role in shaping the EI of undergraduate studying in Nigerian universities.

5.2   Research Implications

The study has some important implications. Theoretically, the study was able to justify the robustness of TPB as it applied in the Nigerian context and yielded similar results with other studies elsewhere. Also, it enriches entrepreneurship literature by introducing ERM as the antecedent of EI. Practically, the study highlighted means of addressing the incidence of the high rate of unemployment and white-collarism deeply rooted in the minds of youths especially in the developing countries where the labour market is already saturated. This involve planned effort to boost EA, PBC and ERM which will in turn trigger the intention for self-employment among graduating study. Methodologically, the predictions in the study were substantiated with advanced out-of-sample prediction and the best model selection criteria in SmartPLS 3.

5.3 Limitations and Recommendations for Future Research

The study has provided support for its three hypothesized relationships with some limitations. Firstly, the present study adopts a cross-sectional design which does not allow causal inferences to be made from the population. Therefore, a longitudinal design in future needs to be considered to measure the theoretical constructs at different points in time to confirm the findings of the present study. A longitudinal study may reveal why despite these factors under study supports EI, yet graduates in Nigeria are found to be trooping to invitations for job vacancies, even to the extent of losing their lives in the struggle to secure paid jobs.

Secondly, the present study focused mainly on final year students from only two universities located in Bauchi state, north-eastern Nigeria. Consequently, future studies should include more samples from various universities in other geographical parts of Nigeria. Universities students should be studied and compared with students from other institutes of higher education such as polytechnics, monotechnics and colleges.

Thirdly, the research model was able to explain only 33.5% ($R^2=0.335$) of the total variance in EI, which means other predictors could significantly explain the remaining 67.4%. Therefore, future research is needed to consider other possible factors such as regulatory requirements and support, political and economic climates in Nigeria that could influence students to form the intention to be their bosses rather than be employed.

REFERENCES

Abbasianchavari, A., & Moritz, A. (2020). The impact of role models on entrepreneurial intentions and behaviour: A review of the literature. *Management Review Quarterly*, doi:10.1007/s11301-019-00179-0

BIBLIOGRAPHY \l 1033 Ajzen, I. (1991). Theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, *50*, 179-211.

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, *32*(4) 665-683.

Ajzen, I., & Madden, T. (1996). Prediction of goal-directed behavioural control. *Journal of Experimental Social Psychology*, *22*, 453-474.

Autio, E., Keely, R., Klofsten, M., Parker, G., & Hay, M. (2001). Entrepreneurial intent among students in Scandivania and in USA. *Enterprise and Innovation Management Studies*, *2*(2), 145-160.

Baah-Boatang, W. (2016). The youth unemployment challenge in Africa: What are the drivers? *The Economic and Labour Relations Review*, *27*(4) 413-431.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359-373. doi:10.1521/jscp.1986.4.3.359

Chlosta, S., Patzelt, H., Klein, S., & Dormann, C. (2012). Parental role models and the decision to become self-employed: moderating effect of personality. *Small Bus Econ 38*, 121-138.

Choudhry, M., Marelli, E., & Signorelli, M. (2012). Youth unemployment rate and impact of financial crises. *International Journal Manpower*, *33*(1), 76-95.

Cohen, J. (1988). *Statistical power analysis for behavioural sciences (2nd ed.).* New Jersey: Lawrence Erlbaum Associates.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.).* Boston, MA: Pearson Education Inc.

Danks, N. P., Sharma, P. N., & Sarstedt, M. (2020). Model selection uncertainty and multimodel inference in partial least squares structural equation modeling (PLS-SEM). *Journal of Business Research, 113*, 13-24. doi:10.1016/j.jbusres.2020.03.019

Debarliev, S., Janeska, A., Bozhinovska, T., & Ilieva, V. (2015). Antecedents of entrepreneurial intention: Evidence from Republic of Macedonia. *Business and Economic Horizons, 11*(3), 143-161.

Doan, X., & Phan, T. (2020). The impact of entrepreneurial education on entrepreneurial education: The case of Vietnamese, Management Science Letters. Retrieved from https://bit.ly/3apzYSJ

El-Gohari, H., Selim, H., & Eid, R. (2016). Entrepreneurship education and employability of Arab higher education business students: An attempt for a primary investigation. *International Journal of Business and Social Science, 7*(2), 52-72.

Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research, 29*(3), 430–447. doi:10.1108/IntR-12-2017-0515Gelderen, M., Brand, M., Praag, M., Bodewes, W., Poutsma, E., & Gi, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behavior. *Career Development International*, *13*(6), 538-559.

Hair, J. F., Babin, J., & Anderson, R. E. (2010). *Multiviriate data analysis (7th ed).* New Jersy: Pearson Printice Hall.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-152.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on partial least squares structural (2nd ed.).* Los Angeles: SAGE.

Izedonmi, P., & Okafor, C. (2010). The effect of entrepreneurship education on students' entrepreneurship intentions. *Global Journal of Management and Business Research, 10*(6), 49-58.

Kim, M., & Hunter, J. E. (1993). Relationships among attitudes, behavioral intentions, and behavior a meta-analysis of past research. *Communication Research*, *20*(3), 331-364.

Klapper, R., & Jarniou, C. (2006). Entrepreneurship intention among French Grande Ecole and university students: An application of Shapero's Model. *Journal of Industry and Higher Education*, *20*(2), 678-693.

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 607-610.

Liu, L., & Wu, D. (2019). Entrepreneurial education and students' entrepreneurial education: Does team cooperation matter? *Journal of Global Entrepreneurship Research, 4*(35), doi:10.1186/s40497-019-01157-3Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship and Regional Development, 23*, 187-215.

Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effect of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in Psychology*, doi:10.33894/fpsyg.2019.00869

Malebana, J. (2014). Entrepreneurial intentions of South African rural university students: A test of the theory of planned behaviour. *Journal of Economics & Behavioural Studies, 6*(2), 130-143.

National Bureau of Statistics (2016). *Another 1.5m nigerians become unemployed in 2016.* Abuja: The Cable.htm

National Bureau of Statistics (2017). *Labour force statistics vol. 1: Unemployment and underemployment report.* Retrieved from https://bit.ly/2KEEz8S

Ogbuagu, A. R., & Benjamin, O. C. (2017). Public sector management and challenge of unemployment: Nigeria's experience in the last three decades (1985-2015). *Journal of Advance Studies in Economics and Public Sector Management*, *5*(2) 2354-4228.

Ozaralli, O., & Rivenburgh, N. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behaviour in the U.S.A. and Turkey. *Journal of Global Entrepreneurship Resarch, 6*(3).

Peng, Z., Lu, G., & Kang, H. (2012). Entrepreneurial intention and its influencing factors: a survey of the university students in Xian, China. *Creative education*, *3*(1), 95-100.

Ringle, C. M., Wende, S., & Becker, J-.M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH, Retrieved from https://bit.ly/3mCQ1ii

Sekaran, U. (2011). *Research methods for business: A skill building approach (4th ed.).* United Kngdom: John Wiley & Sons.

Shmueli, G., Ray, S., Velasquez Estrada, J.M. and Chatla, S.B. (2016). The elephant in the room: Evaluating the predictive performance of PLS models. *Journal of Business Research, 69*(10), 4552-4564.

Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, doi:10.1108/EJM-02-2019-0189

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th).* Boston: Pearson Education.

Weerakoon, W., & Gunatissa, H. (2014). Antecedents of entrepreneurial intention: Reference to undergraduates of Uwu, Sri Lanka. *International Journal of Scientific and Research Publications*, *4*(11) 1-6.