# MEDIATING EFFECT OF ENTREPRENEURIAL SKILLS ON THE RELATIONSHIP BETWEEN ENTREPRENEURIAL ORIENTATION AND ENTREPRENEURIAL INTENTION

## Najafi Auwalu Ibrahim\*

School of Business Management, College of Business
University Utara Malaysia
Department of Business Administration and Entrepreneurship
Bayero University Kano, Nigeria
naibrahim.bus@buk.edu.ng

#### Ibrahim Garba Muhammad

School of Business Management, College of Business
University Utara Malaysia
Department of Business Administration and Entrepreneurship
Bayero University Kano, Nigeria.

ibrahimgeem@yahoo.com

## Muazu Hassan Muazu

Centre for African Entrepreneurship Research Bayero Business School Bayero University, Kano-Nigeria muazumuazu@gmail.com

\*corresponding author: naibrahim.bus@buk.edu.ng

## **ABSTRACT**

The uncertainty nature of today's environment and the increase in unemployment across the globe necessitate the need to improve entrepreneurial activities among graduates. Although, prior studies have documented empirical support of entrepreneurial orientation to entrepreneurial intention, the role of entrepreneurial skills has not been fully documented. Also, the effect of entrepreneurial orientation differs with individual cultures. Hence, the study examined the mediating role of entrepreneurial skills on the relationship between entrepreneurial orientation and entrepreneurial intention using a sample of 143 Nigerian students. This study used a quantitative research approach, while the Partial Least Square Equation Modelling (PLS-SEM) was used for data analysis. The findings of the study revealed that both entrepreneurial orientation and entrepreneurial skills have positive relationships with entrepreneurial orientation. In addition, entrepreneurial skills mediate the relationships between entrepreneurial orientation and entrepreneurial intention. The findings of this study reinforce the assumption that EO shapes the activities of entrepreneurs, while their ES, in terms of negotiating, opportunity recognition and networking ability increases on a daily basis which will lead to entrepreneurial success.

**Keywords:** entrepreneurial intention, entrepreneurial orientation, entrepreneurial skill and Nigeria.

### 1.0 INTRODUCTION

Entrepreneurship has become the most common tool used by individuals and countries to turn their economic fortunes around and also ensure sustainable economic growth and development. Apart from employment through innovative and creative activities of the individual (Nasiru, Keat, & Bhatti, 2015), entrepreneurship also provides economic independence and development of multiple skills (Morris, Shirokova, & Tsukanova, 2017). In the light of the impact of entrepreneurship across the globe, universities and the government at various levels are doing their best to ensure their teeming population inculcate entrepreneurial attitudes; consequently, reducing unemployment and enhancing economic growth and development. In Nigeria, the impact of entrepreneurship programs and policies are yet to yield the expected impact especially in terms of youth unemployment and economic contribution. Even though, global economies are currently characterized by high rates of unemployment as most youths fail entrepreneurship as a career after graduating (Díaz-Casero, Fernández-Portillo, Escobedo, & Hernández-Mogollón, 2017). The level of unemployment among Nigerian graduates has been on the increase. In addition other negative vices that affect several countries' focal stance in terms of their economical prowess are on the rise (Caracatsanis, 2011). Other factors that have been reported as responsible for students' failure to take entrepreneurship as a career includes lack of entrepreneurial skills (see Lieu & Barth, 2014; Roxas, 2014) and entrepreneurial orientation (see Ismail, 2015). Hence, the need for a shift from the traditional approach (policies and programs) by complementing and understanding individual factors that are capable of enhancing entrepreneurial attitudes among these students (Duval-Couetil, 2013). In fact, the current economic recession facing Nigeria is most likely to be addressed when there is a significant entry rate of new entrepreneurs.

However, complementing and encouraging new entrepreneurs require more than government policies and programs. Consideration and understanding the role of other individual factors in enhancing entrepreneurial devotion among these students are also needed. For example, factors such as entrepreneurial education (Jones & Iredale, 2010), entrepreneurial orientation (EO) and entrepreneurial skills (ES) play a vital role in entrepreneurial intention and actions (Krueger, 2007; Clercq, Honig, & Martin, 2012). Entrepreneurial intention has received much consideration due to intention and action being seriously linked to deciding any entrepreneurial activities (Ajzen, 1991). In fact, entrepreneurial intention is vital in predicting any entrepreneurial behaviour (Krueger & Brazeal, 1994). Consequently, there is a need to vividly understand these factors as they influence the individual's decision to engage in entrepreneurial activities (Lin, Lin, & Lin, 2010; Shane & Venkataraman, 2000). Despite a large number of studies on entrepreneurial intention, the impact of individual factors such as EO and ES are yet to be fully understood and utilized in developing economies (Chatterjee & Das, 2016; Farani, Karimi, & Motaghed, 2017). In fact, the ES concept is still lagging behind compared to other entrepreneurial concepts (Chatterjee & Das, 2016; Heinonen, 2007). Thus, the need for a better understanding of these constructs is of great importance, especially in a developing economy like Nigeria. We also argued that relationship between EO and EI is not only direct but also indirect. In an attempt to offer a more detailed explanation on the effect of the importance of EO

and ES on EI, the study therefore, investigated the mediating role of entrepreneurial skills on the relationship between entrepreneurial orientation and entrepreneurial intention.

## 2.0 LITERATURE REVIEW

## 2.1 Entrepreneurial intention

Entrepreneurial intention has been acknowledged as the bedrock that explains individual mind sets that determine or explain the reasons why people become self-employed (Karimi, Biemans, Lans, Chizari, & Mulder, 2016) by engaging in or starting new businesses (Thompson, 2009). According to Thompson (2009), entrepreneurial intention is "a self-acknowledged conviction by a person who intends to set up a new business venture and consciously plans to do so at some point in the future. That point in the future might be imminent or indeterminate, and may never be reached" (p.676). This consequently, is fundamental in understanding individual entrepreneurial intention, activities, opportunity recognition and entrepreneurial decisions (Palich & Ray Bagby, 1995).

The effect of entrepreneurial intention is not only limited to predicting individual entrepreneurial activities but also to organizations as well as their outcomes (Ajzen, 1991; Mitchel, 1981); thus, making it a priority to both scholars as well as practitioners to understand various antecedents and circumstances attached to entrepreneurial intention. Ajzen (1991), argued that entrepreneurial intention is a result of three major factors, namely attitudes, subjective norms and perceived behavioural control that directly influence entrepreneurial decision and action. The theory fully explained entrepreneurial behaviour, which in general, is a result of planned behaviour, meaning, entrepreneurial activities are planned, coordinated and well executed by an individual or organization. The Theory of Planned Behaviour (TPB) is the most widely used theory in entrepreneurship (Santos, Roomi, & Liñán, 2016). In essence, TBP simply explains the strength of an individual's intention which indicates his commitment to embark on entrepreneurial actions.

# 2.2 Entrepreneurial orientation and entrepreneurial intention

Entrepreneurial orientation (EO) originated from Miller (1983) and later was enhanced by Covin and Slevin (1989). The concept of entrepreneurial orientation at this stage mainly focused on the firm level, which had, on various occasions, shown a positive relationship with firm performance (Basso, Fayolle, & Bouchard, 2009; Li, Huang, & Tsai, 2009; Wiklund & Shepherd, 2003). The central factor of engaging or starting a new business lies in understanding EO at both the individual and organizational levels (Krueger & Carsrud, 1993). Accordingly, Pradhan and Nath (2012) defined entrepreneurial orientation as "a person's natural tendency or attitude towards entrepreneurship". It involves all personal ability that provides or enhances the inner zeal to innovate, take risks and desire to solve problems or explore opportunities. The major definition of EO as submitted by Miller (1983), based on three major factors of risk-taking, innovativeness and proactiveness, is a vital indicator of the possibility of an individual to explore and put his/her ideas into action. Innovativeness is more of a creative ability display by an individual that results in the development of a new idea/product or enhancement of an old one (Lumpkin & Dess, 1996). Risk-taking is more of a bold decision to venture into uncertainty,

especially when resources are involved. Proactiveness deals with the ability to foresee the future by exploring new opportunities to respond to change in demand and competition.

EO is classified under the psychological factors that help in explaining the main rationale of individuals engaging in any entrepreneurial activities (Gupta, Niranjan, Goktan, & Eriskon, 2015; Langkamp Bolton & Lane, 2012). Thus, the chance of an individual or organization to engage in entrepreneurial activities is largely linked to EO. Individuals become open to new ideas and also gain the confidence to put those ideas into action (Gupta et al., 2015). Specifically, the role of EO and its effects on entrepreneurial intention has been well documented (Awang, Amran, Nor, Ibrahim, & Razali, 2016; Lope Pihie & Bagheri, 2011). Furthermore, understanding individual entrepreneurial orientation plays an important role in the development of educational programs needed by students (Harris & Gibson, 2008). Moreover, understanding entrepreneurial orientation at the individual level is not only about the individual, but also about the organization and the larger society in general (Vogelsang, 2015). In essence, the impact of EO will not only be on developing the entrepreneurial intention of these students but also, helping investors and other business owners in determining how and where they should channel their resources (Langkamp Bolton & Lane, 2012).

There exists a substantial theoretical and empirical link between entrepreneurial orientation and entrepreneurial intention (Covin, Green, & Slevin, 2006). For example, in one of the major studies on individual entrepreneurial orientation, Langkamp Bolton and Lane (2012) established that three major factors of EO (risk- taking, proactiveness and innovativeness) have significant effects on the entrepreneurial intention of university students. Recently, Ozaralli and Rivenburgh (2016) also found a significant relationship between EO and entrepreneurial intention in the USA and Turkey. Based on this, the present study posits that:

H1: Entrepreneurial orientation is related to entrepreneurial intention.

# 2.3 Relationship between entrepreneurial skills and entrepreneurial intention

Developing students' entrepreneurial skills is one of the major concerns of tertiary institutions, the government and stakeholders (Loué & Baronet, 2012). Despite that, ES has been identified as being complex and controversial, just like other social science constructs (Pyysiainen et al., 2006). ES is defined as the practical capability of an individual needed to successfully plan, organize and execute business activities (Kilby, 1971). ES is a major factor in identifying and analysing social and economic changes that occur in this dynamic environment. Accordingly, Pyysiainen et al. (2006) highlighted personal skills, interpersonal skills and process skills as the three major elements of ES. This classification includes opportunity recognition skills, negotiation skills and networking skills among others. Entrepreneurial skills have been linked with the ability to identify the needs of the customer, consequently, leading to the exploitation and identification of new business opportunities (Alvarez & Barney, 2007) and business success. ES clearly highlights the entrepreneur's competencies and tenacity, which increase on a daily basis as a result of the ability to think, mingle and negotiate business on behalf of his organization. In fact, the ability to develop a new business model and strategize the vision of the new business has been linked with ES (Loué & Baronet, 2012).

Despite some studies reporting an insignificant relationship (e.g. Oosterbeek, van Praag, & Ijsselstein, 2010), the majority reported a significant and positive relationship (Lashgarara, Roshani, & Najafabadi, 2011; Levie, Hart, & Anyadyke-Danes, 2010; Mobaraki & Zare, 2012) between entrepreneurial skills and entrepreneurial intention. In line with the aforementioned relationships, this study hypothesized that:

H2: Entrepreneurial skills are positively related to entrepreneurial intention.

## 2.4 Mediating effect of entrepreneurial skills

As highlighted above, ES is a major determinant of opportunity recognition or creation (Kucel & Vilalta-Bufi, 2016), not to mention its vital role for entrepreneurs in volatile environments, the absence of which would hinder innovation (Michelacci, 2003). Evidently, it is thus, one of the major factors affecting entrepreneurial success especially in a developing economy like Nigeria (Gindling & Newhouse, 2014). Moreover, a number of studies were conducted linking entrepreneurial orientation, entrepreneurial skills and entrepreneurial intention in various countries. For example, Liñán (2008) reported a positive and significant effect between entrepreneurial skills and entrepreneurial intention of university students. In fact, the study also noted that ES is more relevant compared to values used in the study. In a meta-analysis, Unger, Rauch, Frese, and Rosenbusch (2011) established that entrepreneurial success largely depends on entrepreneurial skills rather than on education or experience. However, the concept is not yet fully understood especially at the individual level, despite its constant reference as a key determinant of business success (Kollmann, Christofor, & Kuckertz, 2007; Stuetzer, Obschonka, Davidsson, & Schmitt-Rodermund, 2013). Thus, there is the need for more studies to be conducted in order to provide clearer links (direct or indirect) among the numerous factors such as entrepreneurial orientation and its influence on entrepreneurial intention. In addition, the turbulent nature of today's environment and the dynamism of any entrepreneur lies in his/her entrepreneurial skills and the ability to face and respond to ambiguity and insecurity (Collins, Hannon, & Smith, 2004; Galloway, Anderson, Brown, & Wilson, 2005). In fact, a call for a new rethink on entrepreneurial intention studies has been emphasised in both developed and developing economies (see Fayolle & Liñán, 2014)In light of the above, the study postulated that:

H3: Entrepreneurial skills mediate the relationship between entrepreneurial orientation and entrepreneurial intention.

## 3.0 METHODOLOGY

#### 3.1 Research instruments

The entrepreneurial orientation measurement could be traced to the study by Bolton and Lane (2012), with a call for further verification of the items especially in developing countries. Furthermore, entrepreneurial intention and entrepreneurial skills are taken from Liñán and Chen (2009) and Liñán (2008) respectively, and adapted for this study. However, most of these studies were conducted in developed economies. As such, the need for further studies especially in developing economies that have different cultures, laws as well as understanding in terms of entrepreneurship is of essence. Additionally, the constructs have 22 items: EI (6 items), ES (6 items) and EO (10 items). The EO items are further divided into three basic dimensions of

innovativeness, risk-taking and proactiveness in line with previous studies (Knight, 1997; Lumpkin & Dess, 1996). In addition, a 5- point Likert scale was used with options ranging from *strongly agree (1)* to *strongly disagree (5)* in line with previous studies that mid-point scale provides better information, reliability and results (Dawes, 2008).

## 3.2 Sample design and data collection

Prior to the main data collection, the researcher conducted a pilot study by distributing 30 questionnaires out of which only 20 responses were received. The aim was to test the clarity and validity of the instruments after making changes to suit the context of the study. The main data collection involved the distribution of 200 questionnaires to Nigerian students in University Utara Malaysia. According to the academic affairs department of the university there were 278 Nigerians students at the time of the study, which represented nearly 1% of the 30,515 students in the university. The study used the convenient sampling technique of non-probability, which recorded 159 returned questionnaires out of which only 155 were useful for the analysis. The majority of the respondents were male representing 81.9% (127) and 28% female (28) of the total population size. 106 respondents were young with ages ranging between 20-40 (76.1%) followed by 27 students aged 40 and above representing only 23.9% In addition, 109 or 70.3% of the respondents were master's degree students 43 or 27.7% of the students were bachelor degree students, while 1.9% or 3 students had Ph.D., with specialization cutting across sciences, arts and humanities and management sciences.

Prior to the main data anaysis, the study conducted the Common Method Vairance (CMV) test to examine the validity and reliability of the data. This test became necessary based on the fact that the data of both the dependent and independent variables were collected from a single source using questionnaires. This is in line with Podsakoff, MacKenzie, Lee, and Podsakoff's (2003) argument that data collected from a single source is likely to be baised, hence, the need to test the effect of CMV is highly recommended. Therefore, the present study utilized Herman's factor which is one of the means of detecting the existence of CMV in self-reported data. The test result indicated that CMV was not an issue in this study, as the first fact explained that less than 50% confirmed the non- existance of CMV. Specifically, the study had a value of 23.01% which was far less than the 50% threshold. Podsakoff et al. (2003) stated that data collected through a single source is affected by CMV when a single factor emerges from the factor analysis or one general factor accounts for the majority of the covariance among the measures.

## 4.0 RESULT

## 4.1 Data analysis

The data was analysed using Smart-PLS version 3. Some reasons for using this software are: PLS has the ability to accommodate both reflective and formative constructs and also has a minimal concern on data normality and sample size (Chin, 1998); PLS is very effective for exploratory studies as submitted by (Chin, 2000); and PLS has the ability to simultaneously evaluate the relationship between the measurement model and the structural model as the two basic steps when using PLS-SEM (Anderson & Gerbing, 1988). The measurement model provides an avenue where Latent Variables (LV) and their corresponding indicators are validated to measure the said LV. In contrast, the structural model deals with the association that exists

between the LVs of the study to ensure they are measuring the same thing (Chin, 2010; Hair, Hult, Ringle, & Sarstedt, 2014). The measurement model in a reflective model involves three basic validities: indicator loadings, internal consistency, as well as convergent and discriminant validity (Roldán & Sanchez-Franco, 2012).

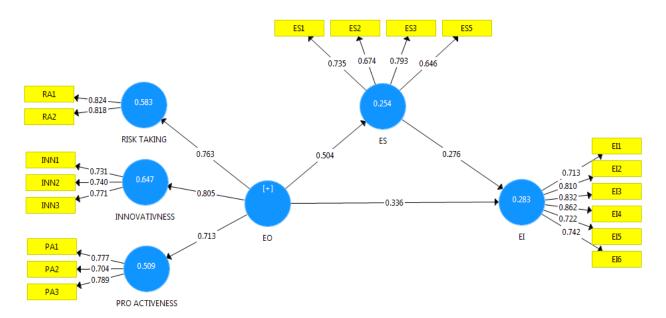


Figure 1. Measurement model.

According to Sekaran and Bougie (2013), construct validity is the process of obtaining and testifying the results in line with the theories the test was designed for. Accordingly, Hair, Black, Babin, Anderson, and Tatham (2006) also confirm that individual item loadings can be used in determining the validity of the measurement model. Having conceptualized EO as the second construct, we followed the repeated indicator approach analysis as suggested in the PLS literature and used in previous studies (Amin, Thurasamy, Aldakhil, & Kaswu, 2016). Thus, in line with this, we looked at the individual item loadings, using a threshold of 0.7 (Hair et al., 2014). Table 1 indicates that most of the values are higher than 0.7, which is accepted because they lead to the achievement of CR and AVE. Furthermore, the convergent validity of the model was also established in accordance with Chin's (2010), Hair, Anderson, Tatham, and Black,s (1998) submissions that all values of the composite reliability (CR) must be above 0.70 to be accepted (see Table 1). Table 1 also indicates that average variance extracted (AVE) values were all above the threshold of 0.50 as suggested by Henseler, Ringle, & Sinkovics (2009).

Table 1
Factor Loadings, Composite Reliability and Average Variance Extracted

	Second order				
First order constructs	construct	Items	Loadings	CR	AVE
Entrepreneurial intention		EI1	0.713	0.904	0.612
		EI2	0.810		
		EI3	0.832		
		EI4	0.862		
		EI5	0.722		
		EI6	0.742		
Risk- taking		RT1	0.824	0.805	0.674
		RT2	0.818		
Innovativeness		INN1	0.731	0.792	0.559
		INN2	0.740		
		INN3	0.771		
Proactiveness		PA1	0.704	0.801	0.574
		PA2	0.789		
		PA3	0.777		
	Entrepreneurial	Risk- taking	0.763	0.805	0.674
	orientation	Innovativeness	0.805	0.792	0.559
		Proactiveness	0.713	0.801	0.574
Entrepreneurial skills		ES1	0.735	0.805	0.510
-		ES2	0.674		
		ES3	0.793		
		ES5	0.646		

Apart from the above, the study also validated discriminant validity using the Fornell and Larcker (1981) criteria. Fornell and Larcker (1981) stated that discriminant validity explains the degree to which items differentiate among constructs or measure distinct concepts. Items are expected to load more in their parent home (construct), rather than in the other constructs. Thus, they will have a higher or greater variance than the ones shared with another construct. The values in Table 2 indicate that all constructs of the study are distinct, as all values of the on-diagonal are less than the square root of the AVE in the off- diagonal in both the rows and the columns of the Table.

However, the Fornell Larcker's criteria have been recently criticized by (Henseler, Ringle, & Sarstedt, 2015). They argued that the Fronell Lacker's criteria sometimes fail to detect discriminant validity, as such becoming unreliable especially in common research situations. Hence, Henseler et al. (2015) suggested the multitrait-multimethod matrix as the new way of evaluating discriminant validity, using the heterotrait-monotrait (HTMT) ratio of correlations. Using this new method, the study achieved discriminant validity as none of the values exceeded

HTMT<sub>.85</sub> as shown in Table 2. Specifically, the model provided complete measurement validity that included individual item reliability, internal consistency, convergent validity and discriminant validity respectively.

Table 2 Discriminant Validity

Fornell-Larcker Criterion				Н	Heterotrait-monotrait ratio (HTMT)						
	EI	ES	INN	PA	RT		EI	ES	INN	PA	RT
EI	0.782					EI					
ES	0.453	0.711				ES	0.557				
INN	0.295	0.413	0.748			INN	0.401	0.628			
PA	0.507	0.366	0.342	0.758		PA	0.679	0.569	0.550		
RT	0.252	0.383	0.508	0.329	0.821	RT	0.374	0.646	0.891	0.572	

In essence, the study fully conducted all the necessary tests to ensure a fit and satisfactory measurement model as identified above. The next was the estimation of the structural model parameters to determine  $R^2$ , path coefficient, effect size ( $F^2$ ) and model fit using predictive relevance ( $Q^2$ ). In estimating the above, the study utilized the 5000 bootstrapping algorithm resampling technique (Hair, Ringle, & Sarstedt, 2011).

## 4.2 Structural model

The second step of PLS analysis was the structural model. The structural model was aimed at testing the relationship between the latent variables as hypothesized in the study. Evaluating variance explained by the endogenous variables using  $R^2$  as well as the path coefficient estimates and their significance were the preliminary requirements of the inner model (Hair et al., 2014). As stated above, the study utilized the bootstrapping method because it provides higher power than the Sobel test (Spector & Jex, 1998). First, we assessed the direct relationship between entrepreneurial orientation and entrepreneurial intention, without including entrepreneurial skills as the mediating variable. Figure 2 below indicates the result of hypothesis one.

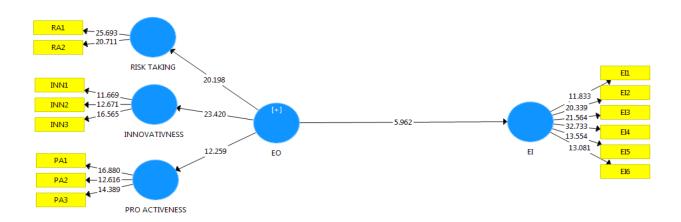


Figure 2. Structural model without the mediating variable.

Specifically, hypothesis one which stated that entrepreneurial orientation positively and significantly affect entrepreneurial intention was supported, with a beta value of 0.474, SE 0.079 t value 6.011 and p<0.001 respectively. Next, we evaluated the total variance  $R^2$  explained by the research model which stood at 23% as presented in Figure 2 and Table 3. In the same vein the study recorded a moderate effect size ( $f^2$ ) with a value of 0.290 in accordance with the Cohen classification. The study also evaluated the predictive relevance ( $Q^2$ ) of the model using the Stone-Geisser test. The predictive relevance explains the "measure of how well-observed values are reconstructed by the model and its parameter estimates" (Chin, 1998). The  $Q^2$  is established through blindfolding, and the results or a value greater than zero signify that the model has predictive relevance. The model had a predictive relevance ( $Q^2$ ) value of 0.124, which was considered as medium according to Chin (1998).

Table 3
Structural Model of DirectrRelationship

Hypotheses	Path coefficient		T Values	Decision
EO -> EI	0.474		6.011***	Supported
$R^2$		0.225		
$F^2$		0.290		
$Q^2$		0.124		

In this section, we analysed the complete model after incorporating entrepreneurial skills as a mediating variable. The new model predictive power after the inclusion of the all three variables recorded  $R^2$  value of 0.283, which implied, that 28.3% of the variance that occurred to the exogenous variables has been explained by the model of the study. The two coefficient determinants were found to be within the threshold that,  $R^2$  should not be less than 0.10 (Falk & Miller, 1992). We estimated the path coefficient and t-value of the study using the 5000 bootstrapping resampling technique.

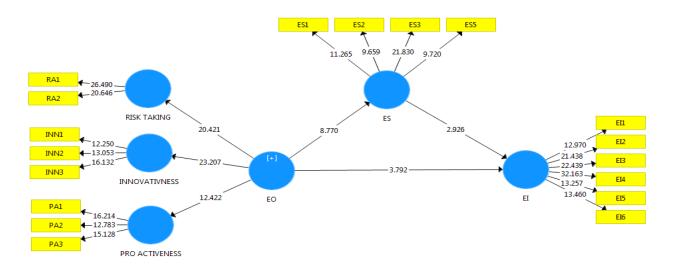


Figure 3. Structural model after incorporating the mediator.

The second hypotheses posited that entrepreneurial skill is positively significant to entrepreneurial intention was also accepted, providing a beta value of 0.276, SE 0.094 t value 2.953 and p<0.001 respectively. Similarly, the main contribution of this study was the proposed mediating effect of entrepreneurial skills on the relationship between entrepreneurial orientation and entrepreneurial intention which was also supported. Using the indirect effect result, the mediating effect was also established with a beta value of 0.139, SE 0.052 t value of 2.67 and p<0.001. All results were further validated with the use of the confidence interval at 95%, with none of the LL or UL values indicating any inconsistency.

Furthermore, the validity of the new structural model was also established using the Stone-Geisser test of predictive relevance ( $Q^2$ ). The predictive relevance explains the "measure of how well-observed values are reconstructed by the model and its parameter estimates" (Chin, 1998). The  $Q^2$  is established through blindfolding, and results or a value greater than zero signify that the model has predictive relevance. The new predictive relevance ( $Q^2$ ) values as presented in Table 4 are all are positive. This indicates that the model has predictive relevance (Chin, 1998; Henseler et al., 2009).

Table 4 *Hypotheses Testing* 

Hypotheses	Path coefficient	EI	ES	T Values	Confidence interval	Decision
ES -> EI	0.276			2.953***	[0.117, 0.425]	Supported
$EO \rightarrow ES \rightarrow EI$	0'139			2.726***	[0.060, 0.227]	Supported
$R^2$		0.283	0.254			
$egin{array}{c} Q^2 \ F^2 \end{array}$		0.120	0.155			
$F^2$		0.117	0.079			

## 5.0 CONCLUSION AND IMPLICATIONS

Entrepreneurship has become one of the major sources of employment, while entrepreneurs play a significant role in economic development around the world. The findings of the study provide support for all the postulated hypotheses indicating that developing entrepreneurial attitudes among these students is more than just policies and programs, but also other critical factors such as EO and ES. In particular, the proposed positive relationships between entrepreneurial orientation, entrepreneurial skills and entrepreneurial intention were all supported. The findings of the study vindicate previous studies that established a positive relationship between EO and EI (Koe, 2016; Robinson & Stubberud, 2014). Similarly, the second hypothesis that predicted the significant and positive relationship between ES and EI is statistically significant. This result corresponds to previous studies (Levie et al., 2010) where ES was found to be a key determinant of EI among university students. In the same vein, the mediating role of entrepreneurial skills on the relationship between ES and EI was also justified. This finding is a novel contribution to literature, especially on the mediating effect of ES in the EO and EI relationship. The findings

reinforce the assumption that EO shapes the activities of entrepreneurs, while their ES, in terms of negotiating, opportunity recognition and networking ability increases on a daily basis which will lead to entrepreneurial success.

The findings of the study provide some implications to both theory and practice by opening further promising areas of research especially within the African context. Firstly, the university management's, the government's and stakeholders' policies and programs should be more of individual factors for successful entrepreneurial actions among these students. Secondly, it is imperative for stakeholders to develop and also update students' curriculum in line with the dynamic nature of today's environment. Thirdly, training and knowledge- sharing should be encouraged among students to enhance EO and ES among them and even the staff.

Despite the study's contribution to knowledge, there exist limitations which need to be addressed in future studies. The first limitation is the use of a cross- sectional design where we collect data at one point in time. Therefore, future studies should look at the entrepreneurial intention of students on the verge of securing admissions into the university. This will evaluate the effect of the entrepreneurial courses and its impact on enhancing or inculcating entrepreneurial intention to these studies. It will also help in identifying the level of the entrepreneurial intention and the proper program required. Apart from that, future studies should include other possible factors such as culture differences and university environments that are capable of explaining students EI to enhance the proposed model. Specifically, Lee and Peterson, (2000) are of the view that effective EO must be associated with culture, as some cultures are more compatible than others. Hence, EO intensity differences are very likely, which require different curricula and training in accordance with individual cultures across the country. Finally, even though we had significant samples, future studies should consider the use of larger samples from various institutions and involve different cultures, experience and skills to enhance the generalizability of the findings.

# 6.0 REFERENCES

- Ajzen, I. (1991). The theory of planned behavior organizational behavior and human decision processes. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*.
- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1, 11–26. https://doi.org/10.1002/sej
- Amin, M., Thurasamy, R., Aldakhil, A. M., & Kaswu, A. H. Bin. (2016). The effect of market orientation as a mediating variable in the relationship between entrepreneurial orientation and SMEs performance. *Nankai Business Review International*, 6(3), 39–59.
- Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*. Retrieved from http://psycnet.apa.org/psycinfo/1989-14190-001
- Awang, A., Amran, S., Nor, M. N. M., Ibrahim, I. I., & Razali, M. F. M. (2016). Individual entrepreneurial orientation impact on entrepreneurial intention: Intervening effect of PBC and subjective norm. *Journal of Entrepreneurship, Business and Economics*, 4(2), 95–129.
- Basso, O., Fayolle, A., & Bouchard, V. (2009). Entrepreneurial orientation: The making of a concept. *International Journal of Entrepreneurship and Innovation*, 10(4), 313–321.

- https://doi.org/10.5367/000000009790012327
- Caracatsanis, D. H. C. N. N. H. S. M. (2011). Challenges facing women entrepreneurs in Nigeria. *Managment Research Review*, 34(2), 221–235. https://doi.org/http://dx.doi.org/10.1108/01409171111102821
- Chatterjee, N., & Das, N. (2016). A study on the impact of key entrepreneurial skills on business success of Indian micro-entrepreneurs: A case of Jharkhand Region. *Global Business Review*, 17(1), 226–237. https://doi.org/10.1177/0972150915610729
- Chin, W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295–336. https://doi.org/10.1016/j.aap.2008.12.010
- Chin, W. W. (2010). How to write up and report PLS analyses. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares* (pp. 515–534). https://doi.org/10.1007/978-3-540-32827-8\_23
- Chin, W. W. (2010). How to write up and report PLS analyses. *Handbook of Ppartial Lleast squares: Concepts, Methods and Applications*, (July), 171–193. https://doi.org/10.1007/978-3-540-32827-8
- Clercq, D. De, Honig, B., & Martin, B. (2012). The roles of learning orientation and passion for work in the formation of entrepreneurial intention. *International Small Business Journal*. https://doi.org/0266242611432360
- Collins, L., Hannon, P., & Smith, A. (2004). Enacting entrepreneurial intent: The gaps between student needs and higher education capability. *Education* + *Training*, 46(8/9), 454–463. https://doi.org/10.1108/00400910410569579
- Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation–sales growth rate relationship.*eEntrepreneurship: Theory and Practice*, 30(1), 57–81. https://doi.org/10.5465/AMBPP.2005.18778648
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environment. *Strategic Management Journal*, 10(1), 75–87. https://doi.org/10.1002/smj.4250100107
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5 point, 7 point and 10 point scales. *International Journal of Market Research*, 50(1).
- Díaz-Casero, J. C., Fernández-Portillo, A., Escobedo, M.-C. S.-, & Hernández-Mogollón, R. (2017). The Iinfluence of university context on entrepreneurial intentions. In *Entrepreneurial Universities* (pp. 65–81). Springer International Publishing.
- Duval-Couetil, N. (2013). Assessing the impact of entrepreneurship education programs: Challenges and approaches. *Journal of Small Business Management*, 51(3), 394–409. https://doi.org/10.1111/jsbm.12024
- Falk, R., & Miller, N. (1992). A primer for soft modeling. Retrieved from http://psycnet.apa.org/psycinfo/1992-98610-000
- Farani, A. Y., Karimi, S., & Motaghed, M. (2017). The role of entrepreneurial knowledge as a competence in shaping Iranian students' career intentions to start a new digital business. *European Journal of Training and Development*, 41(1), 83–100. https://doi.org/http://dx.doi.org/10.1108/EJTD-07-2016-0054
- Fayolle, A., & Liñán, F. (2014). The future of research on entrepreneurial intentions. *Journal of Business Research*, 67(5), 663–666.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(3), 39–50.

- https://doi.org/10.2307/3151312
- Galloway, L., Anderson, M., Brown, W., & Wilson, L. (2005). Enterprise skills for the economy. *Education* + *Training*, 47(1), 7–17. https://doi.org/10.1108/00400910510580593
- Gindling, T. H., & Newhouse, D. (2014). Self-employment in the developing world. *World Development*, 56, 313–331. https://doi.org/10.1016/j.worlddev.2013.03.003
- Gupta, V. K., Niranjan, S., Goktan, B. A., & Eriskon, J. (2015). Individual entrepreneurial orientation role in shaping reactions to new technologies. *International Entrepreneurship and Management Journal*, 1–27. https://doi.org/10.1007/s11365-015-0373-4
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate data analysis. *International Journal of Pharmaceutics*. https://doi.org/10.1016/j.ijpharm.2011.02.019
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis*. *Vectors* (7th ed.), Vol. 6. Upper Saddle River, NJ: Pearson Prentice Hall Upper Saddle River, NJ. https://doi.org/10.1016/j.ijpharm.2011.02.019
- Hair, J. F. J., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2014). *A primer on partialLleast squares structural equation modeling (PLS-SEM)*. *Long Range Planning* (Vol. 46). Thousand Oaks, CA: SAGE Publications, Incorporated. https://doi.org/10.1016/j.lrp.2013.01.002
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed aSsilver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202
- Harris, M. L., & Gibson, S. G. (2008). Examining the entrepreneurial attitudes of US business students. *Education + Training*, 50(7), 1–27. https://doi.org/10.1108/00400910810909036
- Heinonen, J. (2007). An entrepreneurial-directed approach to teaching corporate entrepreneurship at university level. *Education* + *Training*, 49(4), 310–324. https://doi.org/10.1108/00400910710754453
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8
- Henseler, J., Ringle, C., & Sinkovics, R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277-319.
- Ismail, A. (2015). The entrepreneurial attitude and intentions of newly enrolled university students–Issues and policy implications. *Journal of Research in Business, Economics and Management (JRBEM)*, 4(3), 2210–2395.
- Jones, B., & Iredale, N. (2010). Enterprise education as pedagogy. *Education + Training*, 52(1), 7–19. https://doi.org/10.1108/00400911011017654
- Karimi, S., Biemans, H. J. A., Lans, T., Chizari, M., & Mulder, M. (2016). The impact of entrepreneurship education: A study of Iranian students' entrepreneurial intentions and opportunity identification. *Journal of Small Business Management*, 54(1), 187–209. https://doi.org/10.1111/jsbm.12137
- Kilby, P. (1971). Hunting the Heffalump. In *Entrepreneurship and Economic Development* (pp. 1–40). Free Press, New York, NY and London.
- Knight, G. a. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*, 12(3), 213–225. https://doi.org/10.1016/S0883-9026(96)00065-1
- Koe, W.-L. (2016). The relationship between individual entrepreneurial orientation (IEO) and entrepreneurial intention. *Journal of Global Entrepreneurship Research*, 6(1), 13.

- https://doi.org/10.1186/s40497-016-0057-8
- Kollmann, T., Christofor, J., & Kuckertz, A. (2007). Explaining individual entrepreneurial orientation: Conceptualisation of a cross-cultural research framework. *International Journal of Entrepreneurship and Small Business*. Retrieved from http://www.inderscienceonline.com/doi/abs/10.1504/IJESB.2007.013255
- Krueger, J. N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: Applying the theory of planned behaviour. *Entrepreneurship & Regional Development*, 5(4), 315–330. https://doi.org/10.1080/08985629300000020
- Krueger, N., & Brazeal, D. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice*, 91–104. https://doi.org/10.2139/ssrn.1505244
- Krueger, N. F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship: Theory and Practice*, 31(1), 123–138. https://doi.org/10.1111/j.1540-6520.2007.00166.x
- Kucel, A., & Vilalta-Bufi, M. (2016). Entrepreneurial skills and wage employment. *International Journal of Manpower*, *37*(3), 556–588. https://doi.org/10.1108/IJM-01-2015-0021
- Langkamp Bolton, D., & Lane, M. D. (2012). Individual entrepreneurial orientation: development of a measurement instrument. *Education* + *Training*, *54*(2/3), 219–233. https://doi.org/10.1108/00400911211210314
- Lashgarara, F., Roshani, N., & Najafabadi, M. O. (2011). Influencing factors on entrepreneurial skills of rural women in Ilam City, Iran. *African Journal of Business Management*, 5(14), 5536–5540. https://doi.org/10.5897/AJBM11.623
- Lee, S. M., & Peterson, S. J. (2000). Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business*. https://doi.org/10.1016/S1090-9516(00)00045-6
- Levie, J. D., Hart, M., & Anyadyke-Danes, M. (2010). The effect of business or enterprise training on opportunity recognition and entrepreneurial skills of graduates and non-graduates in the UK. *Frontiers of Entrepreneurship Research*, 29(23), 1–11.
- Li, Y.-H., Huang, J.-W., & Tsai, M.-T. (2009). Entrepreneurial orientation and firm performance: The role of knowledge creation process. *Industrial Marketing Management*, 38(4), 440–449. https://doi.org/10.1016/j.indmarman.2008.02.004
- Lieu, T., & Barth, J. R. (2014). Entrepreneurial skills for women 's business success lessons around the world and implications for Vietnam. *VNU Journal of Science: Economics and Business*, 30(2), 55–64.
- Lin, E., Lin, T. M. Y., & Lin, B. (2010). New high-tech venturing as process of resource accumulation. *Management Decision*, 48(8), 1230–1246. https://doi.org/doi:10.1108/00251741011076762
- Liñán, F. (2008). Skill and value perceptions: How do they affect entrepreneurial intentions? *International Entrepreneurship and Management Journal*, 4(3), 257–272. https://doi.org/10.1007/s11365-008-0093-0
- Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship: Theory and Practice*, 33(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x
- Lope Pihie, Z. a., & Bagheri, a. (2011). Malay secondary school students' entrepreneurial attitude orientation and entrepreneurial self-efficacy: A descriptive study. *Journal of Applied Sciences*. https://doi.org/10.3923/jas.2011.316.322
- Loué, C., & Baronet, J. (2012). Toward a new entrepreneurial skills and competencies

- framework: A qualitative and quantitative study. *International Journal of Entrepreneurship and Small Business*, 17(4), 455. https://doi.org/10.1504/IJESB.2012.050164
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172. https://doi.org/10.2307/258632
- Michelacci, C. (2003). Low Returns in R&D Due to the lack of entrepreneurial skills\*. *The Economic Journal*, 113 (484), 207-225.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–789. https://doi.org/10.1287/mnsc.29.7.770
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*.
- Mitchel, J. O. (1981). The effect of lintentions, tenure, personal, and organizational variables on managerial turnover. *Academy of Management Journal*, 24(4), 742–751. https://doi.org/10.2307/256173
- Mobaraki, M. H. M., & Zare, Y. B. Y. (2012). Designing pattern of entrepreneurial Sself-efficacy on entrepreneurial intention. *Information Management and Business Review*, 4(8), 428–433. Retrieved from http://ifrnd.org/Research Papers/I4(8)1.pdf
- Morris, M. H., Shirokova, G., & Tsukanova, T. (2017). Student entrepreneurship and the university ecosystem: A multi-country empirical exploration. *European J. International Management*, 11(1), 65–85. https://doi.org/10.1504/EJIM.2017.081251
- Nasiru, A., Keat, O. Y., & Bhatti, M. A. (2015). Influence of perceived university support, perceived effective entrepreneurship education, perceived creativity disposition, entrepreneurial passion for inventing and founding on entrepreneurial intention. *Mediterranean Journal of Social Sciences*, 6(3), 88–95. https://doi.org/10.5901/mjss.2015.v6n3p88
- Oosterbeek, H., van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, *54*(3), 442–454. https://doi.org/10.1016/j.euroecorev.2009.08.002
- Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behavior in the USA and Turkey. *Journal of Global Entrepreneurship Research*, 6(1), 1.
- Palich, L. E., & Ray Bagby, D. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. *Journal of Business Venturing*, 10(6), 425–438. https://doi.org/10.1016/0883-9026(95)00082-J
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879
- Pradhan, R. K., & Nath, P. (2012). Perception of entrepreneurial orientation and emotional intelligence a study on India's future techno-managers. *Global Business Review*, *13*(1), 89–108.
- Pyysiainen, J., Anderson, A., McElwee, G., Vesala, K., Pyysiäinen, J., & Anderson, A. (2006). Developing the entrepreneurial skills of farmers: Some myths explored. *International Journal of ...*, *12*(1), 21–39. https://doi.org/10.1108/13552550610644463
- Robinson, S., & Stubberud, H. A. (2014). Elements of entrepreneurial orientation and their relationship to entrepreneurial intent. *Journal of Entrepreneurship Education*, 17(2), 11.

- Roldán, J. L., & Sanchez-Franco, M. J. (2012). Variance-based structural equation modeling: Guidelines for using partial least squares in information systems research. In M. Mora O. Gelman, A. Steenkamp, & M. Raisinghani (Eds.), *Research methodologies, innovations and philosophies in software systems engineering and information systems* (In Raising, pp. 193–221). Hershey PA: Information Science Reference.
- Roxas, B. (2014). Effects of entrepreneurial knowledge on entrepreneurial intentions: A longitudinal study of selected South- east Asian business students. *Journal of Education and Work*, 27(4), 432–543. https://doi.org/10.1080/13639080.2012.760191
- Santos, F. J., Roomi, M. A., & Liñán, F. (2016). About gender differences and the social environment in the development of entrepreneurial intentions. *Journal of Small Business Management*, 54(1), 49–66. https://doi.org/10.1111/jsbm.12129
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill-building approach, Fourth edition.* John Wiley and Sons, New York. Retrieved from http://eu.wiley.com/WileyCDA/WileyTitle/productCd-111994225X.html
- Shane, S., & Venkataraman, S. (2000). The Ppromise of enterpreneurship as a Ffield of research. *The Academy of Management Review*, 25(1), 217. https://doi.org/10.2307/259271
- Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, *3*(4), 356–367.
- Stuetzer, M., Obschonka, M., Davidsson, P., & Schmitt-Rodermund, E. (2013). Where do entrepreneurial skills come from? *Applied Economics Letters*, 20(12), 1183–1186. https://doi.org/10.1080/13504851.2013.797554
- Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship: Theory and Practice*, 33(3), 669–694. https://doi.org/10.1111/j.1540-6520.2009.00321.x
- Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26, 341–358. https://doi.org/10.1016/j.jbusvent.2009.094
- Vogelsang, L. (2015). Individual entrepreneurial orientation: An assessment of students. Statewide Agricultural Land Use Baseline 2015. Humboldt State University. https://doi.org/10.1017/CBO9781107415324.004
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314. https://doi.org/10.1002/smj.360