



**PARTICIPATORY BEHAVIOR IN SMES' GROWTH  
AND SURVIVAL AMONG GRADUATE SCHOLARS'  
ENTREPRENEURSHIP INTENTION AND CAREER  
PURSUIT ALTERNATIVE: A NIGER DELTA ANALYSIS**

**James Onuche Ayegba** 

School of Management Science and Engineering, Jiangsu University, Jiangsu, China  
5103150216@stmail.ujs.edu.cn

**Zhou Lu Lin**

School of Management Science and Engineering, Jiangsu University, Jiangsu, China  
zll62@ujs.edu.cn

**Peace Maina Ayegba**

Department of Accounting, Nasarawa State University, Keffi, Nigeria  
peacemainajames@gmail.com

**Zhang Xin Jie**

School of Management Science and Engineering, Jiangsu University, Jiangsu, China  
1000004773@ujs.edu.cn

**Emmanuel Onu Ayegba**

Department of Strategy and Planning, Nigerian National Petroleum Corporation, Nigeria  
emmanuel.ayegba@nnpcgroup.com

**Benjamin Bernard Uzoejinwa**

Department of Agricultural and Bio-resources Engineering, University of Nigeria, Nsukka, Nigeria  
benjamin.uzoejinwa@unn.edu.ng

**Andrews Okine**

School of Computer Science and Communication Engineering, Jiangsu University, China  
5102160312@stmail.ujs.edu.cn

## Abstract

*Constantly and massively seeking for white-collar jobs that are nonexistence with heated competitions for the few are frustrating to many graduates' and increase social vices like crimes due idleness and poverty. Deliberate, planned, intentional acts can persuade graduating scholars' future experiences to consider the option of inward self-fulfillment henceforth, entrepreneur intention and adoption as a career which trigger economic empowerment. The research explored usage of the multivariate analysis presuppositions of data derived via software SPSS version 20. Highlights of the study includes the assessment and resolving univariate and multivariate to identified by crosschecking for missing data outliers verified and validation of the kurtosis and skewedness, thereby examining factor analysis and the reliability test associated with the Cronbach coefficient alpha. At the end this created opportunity for the data to available for multivariate analysis which was intended for re-use. Scholars were drawn from Delta State University, Abraka (DSUA) and Rivers State University of Science and Technology (RUST) both are State-owned institutions. The sample size of 238 respondents were randomly selected. This system approach intends to provide different facets of educational and commerce policies for cross-section of SMEs in different contexts especially in the Niger Delta region. The disconnection between educational policies and practicality should be a major cause of concern for all stakeholders in addressing the gap that still exist to this day. This dilemma should be handled through engaging the actual target enterprises, academician for a, associations of trade and commerce, economic pressure groups, local authorities in commerce, educational institutions and others in join-collaborative policy formulation that will have a buy-in and is realistic taken the peculiarities of each enterprise or educational group and specific needs. Finally, the structural measurement model was tested for fitness using the AVE, Discriminant Validity, Cronbach's Alpha, CR, and R-squared. The results from these tests confirmed that the conditions are satisfied for the applications of the structural equations model. The entrepreneurship traits were also examined. Entrepreneurship skills and entrepreneurship self-efficacy were used as a mediating latent variables between entrepreneurship education and entrepreneurship intentions.*

*Keywords: Entrepreneur Education; Personal traits; Theory of Plan Behavior; Entrepreneurial intention; Structural model; Niger Delta Region; SMEs Activities*

## INTRODUCTION

Growth and economic progressions in term increase in industry, employments, incomes generations and per capital head measure through human development index (HDI), gross domestic products (GDP) all begins from the micro-level and advance to a wider trend of economic development and national prosperity. Entrepreneurship begat small and medium-sized enterprises SMEs in any economic. The entrepreneurship is a creation of human intentions to engage in a business venture which will be involve in micro production of goods or services of which clustered (Taha, Ramlan, & Noor, 2017; Uddin & Bose, 2012) Entrepreneurship is crucial in the determination of any economic growth and development. the fast and always growing economic of the world require the economic entrepreneurship input to keep surviving in the global socioeconomic and even political environment (Ali, Topping, & Tariq, 2010). All policy makers and legislations are geared toward ensuring economic growth and development are achieving the long run, economic growth therefore entrepreneurship development is progressive (Nwekeaku, 2013). Global States and organized economic including research institutions canters are committed to devising new progressive innovations policy and schemes as a vehicle or medium that facilitate the economic and entrepreneurs development at all sphere of the society (Baltacioğlu et al., 2014). Nonetheless, business creation is a to setup a progressive and successful business is an enormous task considering the nitty-gritty of planning execution and management aspects which are challenging and demanding, hence the need to strategize a way of consciously desiring with the intent to start up an activity such SMEs having incubated and the birth will be entrepreneurial intention. (Liñán, Nabi, & Krueger, 2013).

Despite the mounting rate The root-causes of crimes and other social vices stemmed out of lack of livelihood especially in developing economies like Nigeria where cost of living is high, failed in social infrastructures; socio-political institutions is very weak to initial and enforce credible policies and schemes that could better the lots of the masses, corruptions among states official are prevalence and investment are discourage due to failure of the system. with all these socioeconomic situation unleashing a great country Nigeria endowed with, rich mineral resources and human capital, it amazing to realised that just little research has been carryout to foster entrepreneurship intention and education which can empowered the masses and facilitate the micro economic sector which is the strengthen SMEs and create jobs instead (Mahmoud, 2015) only a few studies were conducted on entrepreneurial intentions in the developing countries (Nabi & Liñán, 2011; Singh Sandhu, Fahmi Sidique, & Riaz, 2011). Specifically, Lack of extant literature in terms of entrepreneurial intensions limit the necessary knowledge that will stir up the ideal situation that will propel or boost entrepreneurial intentions, contextual realities

intend of environmental factors differs contextually from place to place worldwide (Doğan, 2015). According to (Agbim, Oriarewo, & Owocho, 2013) majority of graduates are virtually ignorance of entrepreneurship intention because of the orientation has always be graduate from university and seek for a white collar-jobs, due to constant failure system and twilight economic wellbeing couple with high level corrupt practices thousands of graduates troops out from university after the compulsory national service without a job in sight. the situation is getting more pathetic annually, the re-awaking of entrepreneurial intension will salvage the bad situation and encourage graduate to look inward instead and consciously develop personal norms that aggravate the urged to begins a business (Farrukh, Alzubi, Shahzad, Waheed, & Kanwal, 2018); especially for the postgraduate candidates (Schunkert et al., 2011).

### Niger Delta Region

Niger Delta can be defined by its geology and hydrology. (Tamuno, 1999)stated that "linguistically, ethnographically, culturally, the Niger Delta of the pre-crude oil and gas era, comprised a bewildering mix of ethnic groups" among which are "the communities of Ijaw (in eastern, western and central Niger Delta), the Ogoni, Itsekiri, Urhobo, Isoko, Ikwerre and Delta Igbo". Furthermore, Tamuno pointed out that the Niger Delta has a land mass of about 70,000 sq. km. This contrasts with the 1995 World Bank Technical Report, which gives the total land area of the Niger Delta as 20,000 sq. km. "located in south eastern Nigeria" (Dept, 1995). An even more restricted concept of the Niger Delta has, unfortunately been espoused by the Niger Delta Environmental Survey (NDES), a non-governmental organization funded by the Oil Producers Trade Sector (OPTS) of the Lagos Chambers of Commerce. The NDES placed the limits of the Niger Delta at Aboh to the north, the Imo River estuary to the east, the Benin River to the west, and down to Akassa and Nun River Estuary to the south.



Figure 1. Map of Niger Delta Region of Nigeria

Franki and Cordry introduced the term “Niger Delta Oil Province” at the 7th World Petroleum Congress in 1967 for the region southward from Onitsha, Benin and Umuahia, where oil and gas occurred in commercial quantities. This is the petroleum definition of the Niger Delta. Nevertheless, it must be emphasized that for development purposes it is the coastal, riverine part of the Niger Delta that is problematic. The broader Niger Delta region, which includes all oil-producing areas and others considered relevant for reasons of administrative convenience, political expedience and development objectives, extends the land area to 70,000 square kilometers. Government used this definition during the establishment of the NDDC. Figure 2 above shows the map of Nigeria and the part covered by the Niger Delta region. However, the recent Niger Delta Development Bill equates the Niger Delta with the South-South geopolitical zone, comprising Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States, to which neighboring oil-producing parts of Ondo, Abia and Imo States must be added.

### **Education in Niger Delta Region**

Education is one of the areas of great concern in a country’s quest to achieve sustainable development. The Nigerian nation has not fared well in this direction, and may not achieve this by 2015 which is one of the MDGs (Easterly, 2009). According to the Nigeria Ministry of Education, some of the states in the Niger Delta region are classified as Educationally Less Advantage States (EDLAS) in Nigeria. This means that the region generally has low enrolments in tertiary institutions compared to some other regions in Nigeria. This was due to lack of interest among the youths in acquiring formal education, and the inability of most parents (poverty) to sponsor their wards in tertiary institutions. This trend has changed over the years, due to the presence of the oil companies in the region. Some of these oil companies offer scholarships to the indigenes of the local communities where they operate from secondary to the university levels of education. There is an increase in Primary school enrolment (gross) rose steadily from 67.7 % in 1990 to 93% in 2001 before rising appreciably to 123.0% in 2003 {Niger Delta HD Report} (Niger Delta) This was because of having over aged and under aged children registering for primary education arising from the implementation of Universal Primary Education (UBE) by the Nigerian government. Primary six-completion rate also rose from 60.0% in 1991 to 83% in 2001 before rising appreciably to 94.0 % in 2003. There were however, imbalances in the completion rate between boys and girls in favour of boys. Literacy rate among people within the age group of 15 and 24 declined from 70.7 % in 1991 to 64.1 % in 1999 but later rose significantly to 76.4 % in 2004 (Niger Delta HD Report, 2006) (Okonkwo, Kumar, & Taylor, 2015). This means that goal two (Achieving Universal Primary Education) of the MDGs

is being pursued vigorously by the Nigerian authorities, so as to meet the 2015 target (Niger Delta).

From figure below, it can be seen that a greater number of the respondents to the questionnaires distributed during the research have formal education. Majority of them (80) had secondary education, while a significant number (60) had university education. This implies that, the majority of people in the region is well educated and knows their rights, and wants the region to become environmentally sustainable.

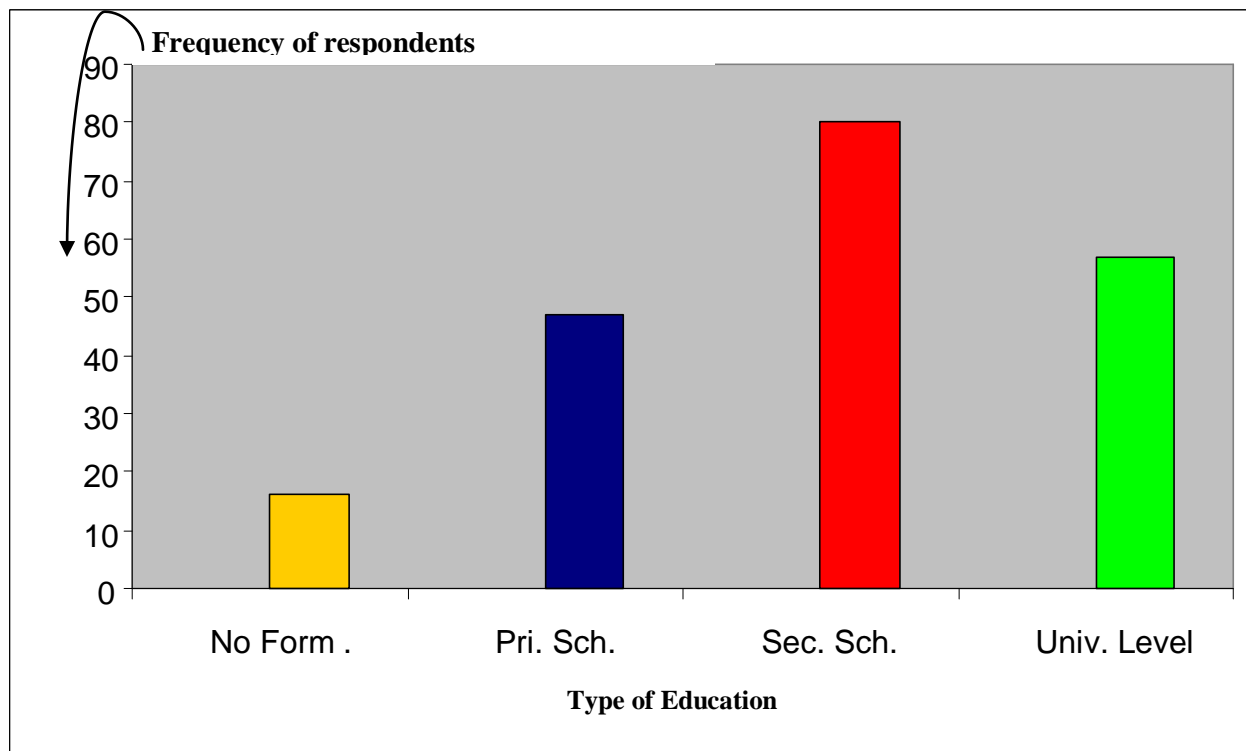


Figure 2. Level of Education of the Local People in the Niger Delta Region

## LITERATURE REVIEW

Krueger et al. in their work in 2000 (Krueger Jr, Reilly, & Carsrud, 2000) posited the importance of intention as the most appropriate forecasting indicator when it comes to the business establishment by an individual (Krueger Jr et al., 2000). Furthermore, they argued that business creation is likely to take effect unless there is a deliberate intention (Owoseni & Akambi, 2010). The accumulation of various traits such as perceived taken control, social subjective norms and attitude are attributes that formulate a specific intention (Owoseni & Akambi, 2010).

Gradually the aforementioned behavioural traits can lure an individual to finally decide to adopt entrepreneurial intention and attitude of an individual. Therefore, attitude can be defined

as when an individual finally adopted continually a pattern of character (Owoseni & Akambi, 2010) Henceforth, entrepreneurial behaviour is a good intention adopted by an individual to commence a business enterprise or venture (Mainwaring & Pérez-Liñán, 2013). Over time, behavioural attitude has proven to be an essential fuel that powers the entrepreneurship desire of an individual by Angriawan, Connors, (Liñán & Chen, 2009; Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011; Malebana, 2014; Otuya, Kibas, Gichira, & Martin, 2013; Souitaris, Zerbinati, & Al-Laham, 2007) The agitation created by societal pressure to carry out a particular attitude or specific behaviour is known as the subjective norm (Krueger & Carsrud, 1993). The craftiness to mold one into a specific behaviour which resulted by seconding to pressure is known as perceived social desirability (Owoseni & Akambi, 2010). Generally speaking, subjective norms is a necessary instrumentality when it comes to imbibing entrepreneurship desires which will eventually translate into establishing a business venture (Owoseni & Akambi, 2010) By and large by (Angriawan, Connors, Furdek, & Ruth, 2012; Kolvereid & Isaksen, 2006; Mahmoud & Muharam, 2014; Malebana, 2014; Saeed, Yousafzai, Yani-de-Soriano, & Muffatto, 2016). The ability to successfully execute a behaviour or otherwise due to some militating factors is known as perceived behavioral control (Saeed et al., 2016). Having confident due to the capacity to execute specific behaviour becomes a stepping stone to initiating the action. Hence the one that is courageous enough will usually take a bold step and commences a business enterprise (Krueger Jr et al., 2000)). However, the capability lies within the conviction of an individual to begins a business having been fully persuaded; this kind of behaviour is known as perceived behavioral control (Liñán et al., 2011). A wealth of knowledge over time have acknowledged the significance of perceived behavioral control as the key element in motivating and a foresting indicator that can accurately predict if individual that will imbibe entrepreneurship intent or desire on a long run for a career in entrepreneurship (Ekpe, Razak, & Mat, 2013; Iakovleva, Kolvereid, & Stephan, 2011; Lagat, Mugo, & Otuya, 2013; Liñán et al., 2013; Liñán et al., 2011; Mahmoud & Muharam, 2014; Malebana, 2014; Ogundipe, Kosile, Olaleye, & Ogundipe, 2012)

### **Entrepreneurship and High-Tech Expansion - The Twain Effects**

It has been proved over the years that it is almost impossible one talk about entrepreneurship without production in mind. Holt in his year 2005 contributions (Hjorth, Holt, Fernandez, & Farias, 2016) postulated that the entrepreneur pursues to improve or revolutionize the array of production through the imagining of new creative ideas of a sound technological pattern of producing a new product or creating an old one in a novel way, by opening up a new basis of supply of resources or a new opening for the merchandises massively.



Technology is the most distinguishing element of contemporary civilization. It does not only regulate our standard of living, but also our mode of life. As a result, nowadays what determined the rating of human society is in form of the primitive or advanced stage solely depends on that societal level of technological attainment.

Additionally, following the array of affluence created elsewhere by industrialization aroused from the more needs to consumed lead to more production hence demand begat production to satisfy human needs. However, according to (Okeke, 2014), the traditional technologies are less suited to meet rising anticipations of wealth. Hence, the exigent necessity for emerging countries to improve their peculiar suitable expertise. Technological advanced countries developed their own appropriate technology to suit their needs and contextual environment. Technology therefore is easy way of doing something. That is, the way an establishment or an entity generate and transfers its ideas into productions.

Yet, technology can be categorized into cutting-edge technology, halfway technology and home-grown technology.

### Intermediate technology

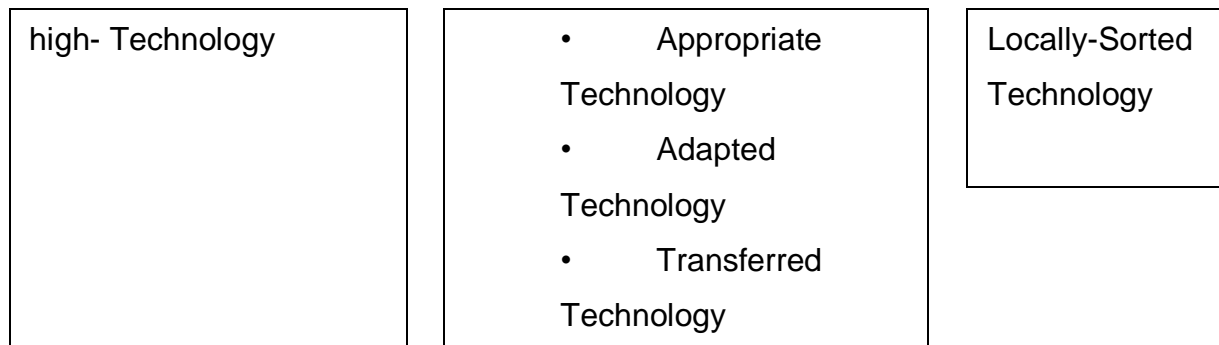


Figure 3. Technological Multipurpose: Adapted from Entrepreneurship Growth & SMEs

Forward-thinking technology is the technology which is atypical to technologically progressive countries. A local technology is a Home-based technology that has been established from up-to-date scientific standard. Transitional technology is a technology, which lies between the most nascent and the most developed. It encompasses the benefits of the developed while avoiding the dangers of the over developed.

A fitting or appropriate is that which is most economical in a given set of situations. To be considered appropriate, such technology must accomplish the following measures:

- Crude resources used can be in the vicinity located
- Apparatus and assets merchandises must be obtainable at ease



- Skillfulness to maneuver the tools must be freely available
- The magnitude of the marketplace must be satisfactory
- There must be ease of use of amenities

There must be obtainability of infrastructural dynamics and re-fashionable to meet contemporary yearnings etc.

## **METHODOLOGY**

The need to determine a more qualitative research using a well layout descriptive along with the inferential statistics with the assistance of SPSS version 2.0.

### **Population**

Population refers to the defined group of cases or items; individuals, events or subjects. It has also been explained as the actual selected group who preferably would be the subject of the study and about whom the researcher is making attempt to study (Creswell, 2009). It can therefore be assumed that population refers to all the individuals to be represented in a study. The research carefully selected a population of 240 just graduated PG students who are drawn from various institution in Niger Delta oil and gas rich region of Nigeria. exactly four graduate colleges from four universities Petroleum Training Institute Effurun (PTIE), Western Delta University Effurun (WDUE), Delta State University, Abraka (DSUA) and the Federal University Effurun (FUE). Out of this 240 graduates, 157 were from PTIE, 49 graduates from WDUE, 34 were from DSUA.

### **Sampling**

According to Krejcie and Morgan (Krejcie & Morgan, 1970) who recommended sampling table to be formulated in a representative study. The adoption and utilization of a sample was dully selected for the total population of 240 which was supposed to be 148, henceforth, the research selected 156 sample which adequately conformed to the minimum number expected in a representative sample in a study. An online questionnaire (<https://docs.google.com/forms>) was used for data collection.

### **Response Rate**

A total of 240 graduating students were randomly chosen and given survey questionnaires to fill out across some institutions of which 190 of those questionnaires were distributed to them. henceforth a total of 156 of those distributed questionnaires were filled out and successfully returned showing a rate of about 82%. According to Krejcie and Morgan (1970) The 156

respondents 65% of them successfully filled out and returned the questionnaires which fulfilled the minimum requirement of a representative of the population of the total population even though the sum up gotten was exactly 148 of the total 240 graduates

## FINDINGS AND DISCUSSION

### Descriptive Analysis

The profile of the multiple respondents was computed using the descriptive analysis. These comprises of their biodata such as sex, age, University of study, course of study, sessions of study, working experience, sole owner of business venture, relative that owns and carry-out a business, and role of a business mentor. The outcome clearly indicated that in Table 1 comprises of 150 males (96.2%), 6 females (3.8). while the entire respondents are 98 (62.8%) are between the age brackets of 20-35 years of age, 54(34.6%) fell between the age brackets of 35-45 years of age, 4 (2.6%) are within the range of 46 and beyond. PTIE/WDUE has 109 (69.9%), DSUA has a total of 20 (12.8%) and FUE consist of about 27 (17.3%). The respondents that are preoccupied in studying Masters in various universities, that is MBA/MSc/MA graduates' hopeful are 50 (32.1%), while their counterparts studying various Doctoral Courses from diverse disciplines such as Arts/Humanities, Engineering and Natural Sciences 106 (67.9%) and zero for RUST. Those in the first session was totally 28 (17.9%), second session has 45 (28.8%), third session has 47 (30.1%), fourth session has 17 (10.9%), fifth session has 17 (10.9%) and the sixth session has 2 (1.3%). The respondents that has engaged in some form of worked in the past are total 6 (3.8%).

Those who have ever owned a business are 110 (71.2%) and those that do not are 46 (28.8%). Those whose family members run a business are 139 (89.7%) and those that do not are 17(10.3%). Respondent that has business mentoring of sole business or self-service business which 121(78.2%) while those with some form of mentoring and business education no role mentoring in business 35 (21.8%).

Table 1. Descriptive results for the respondent's profile information.

S/No	Items	Frequency (N=156)	Percentages (%)
I	Sex of Respondent Male	150	95.2
	Female	6	4.8
II	Age of Respondent		
	20-35	98	61.8
	36-45	54	35.6
	46 and beyond	4	2.6

<b>III</b>	University of Learning	109	
	PTIE/WDUE	20	68.9
	DSUA		13.8
	FEU	27	17.3
<b>IV</b>	Classification of Students	50	
	Masters	106	32.1
	PhD		67.9
	MPA	0	0
<b>V</b>	Sessions of Academy Period	28	
	1	45	17.9 28.8
	2	47	30.1
	3		
	4	17	10.9
	5	17	10.9
	6	2	1.3
<b>VI</b>	Gained Work Experienced	150	
	Yes		96.2
	No	6	3.8
<b>VII</b>	Self Employed business or sole business	110	
	Yes		71.2
	No	46	28.8
<b>VIII</b>	Relatives members that Possess business	187	
	Yes		89.7
	No	16	10.3
<b>IX</b>	Yes	122	78.2
	<b>No</b>	<b>34</b>	<b>21.8</b>

Table 1...

### Test of Non-Response Bias

In order to adequately tackle the non-response bias which is always prone, there is the need to carefully scrutinized and eradicate such possible bias in spite of it tiny or insignificance presence (Sheikh & Mattingly, 1981). The shortcoming arising from systematically omitting some vital aspect of an empirical inquiring resulting from outright lack of information or supply of under information by group of respondents is simply classified as non-response bias (Mahmoud, Muharam, & Mas' ud, 2015; Stadtler, 2005).

Respondents are grouped into two major folds: first response and delay response. However, the categorisations are summed into, four variable of the research (Attitudes imbibe, Personal norms, Perceived Behavioural Control and Entrepreneurial intention). Thus, the instrument of data collection which was the questionnaire was distributed in broadcasted to multiple emails of selected graduates via [www. google.com](http://www.google.com) on first week of October thus

the study evaluated the non-response bias of the group that responded with the month of October (First response) and the group that responded in November ending as (Delay responded).

As seen from the table displayed below, the range mean and standard deviation for both the group of that responded early and the other group that responded late have a great disparity, However, in table 3, t test for the dual tailed outcome clearly showed minor differences with the First group of respondents with Attitude imbibe ( $t_{1.350}$ ,  $p < 0.179$ ), Personal norms ( $t_{1.027}$ ,  $p < 0.306$ ), Perceived Behavioural Control ( $t_{1.692}$ ,  $p < 0.093$ ), and also the Entrepreneurial intention ( $t_{0.176}$ ,  $p < 0.871$ ).

Table 2. Descriptive statistics for early respondents and delay respondents

Variables	Response	N	Mean	Std. Deviation	Std. Error Mean
ATTIT	First Response	63	6.0232	1.20436	.15172
	Delay Response	93	5.7893	.94655	.09816
PN	First Response	63	5.6238	1.24032	.15624
	Delay Response	93	5.4311	.98610	.10222
PEBC	First Response	63	5.5566	.97506	.12282
	Delay Response	93	5.2981	.90317	.09368
ENIN	First Response	63	5.7640	1.27939	.16113
	Delay Response	93	5.7340	.84251	.08739

Table 4. Independent samples T-test for equality of means Leven' Test for equality of variance.

Variables	F	Sig.	T	Df	Sig. (2 tailed)	Mean Difference	SD Error Difference	95 Confidence of the difference	
								Lower	Upper
ATTIT	.003	.939	1.360	154	.178	.22297	.17163	.10806	.57300
			Equal variance (Assumed)						
ATTIT	.003	.939	1.279	111.568	.201	.23298	.18171	.12410	.59205
			Equal variance (Not assumed)						

PN	Equal variance (Assumed)	.867	.361	1.017	154	.307	.18465	.17867	.16851	.53580
	Equal variance (Not Assumed)			.973	112.657	.318	.18355	.18575	.18535	.55265
PEBC	Equal variance (Assumed)	.157	.682	1.692	154	.092	.25765	.15120	.04213	.55813
	Equal variance (Not Assumed)			1.567	126.262	.097	.25745	.15437	.04824	.56334
ENIN	Equal variance (Assumed)	4.54 6	.023	.176	154	.850	.02895	.16969	.30556	.36527
	<b>Equal variance (Not Assumed)</b>			<b>.162</b>	<b>98.091</b>	<b>.861</b>	<b>.02985</b>	<b>.18321</b>	<b>.33481</b>	<b>.39672</b>

### Data Design for Analysis

The multiple questionnaire returned via email were downloaded and assigned a serial number, thereafter the numbers were keyed into the SPSS software for analysis. A diligent and thorough job was carried out to ensure every details is captured and correctly inputted. therefore, the serialization helped the differentiate and segment the first response and the delay response.

### Coding of data

According with the respect of the constructs utilized in this study, coding was used to guarantee easy identification of items label thereby ensuring that each data was key in and exhaustively analyzed.

### Data Formatting/ Editing

All respondents were educated and skilled in knowledge this fact was noted in their displayed of pedigree when answering the questionnaire, there each questionnaire returned were simply

checked to ensure incompleteness, all were duly filled and responded 100% no doubt their knowledge as graduate made it easier, thus no incomplete or missing data at all.

### ***Missing Data as a setback***

Careful preparation and check list were mapped out right from the onset to avoid complicated issues such as missing data incident. whilst questionnaires were ensuring that they are not omitted and if any return to the respondent to complete them since they constitute vital information for this study quality and validity (Maiyaki & Mohd Mokhtar, 2011) This will vitally help in eliminating or the avoidance of the undesirable incident of missing data (Gorondutse & Hilman, 2014). Analysis are wholly dependent on the supply data from the field, thus, the need to ensure all questionnaire are fill out to completely in the event approximately up to 25% information are missing in a questionnaire, the validity is no longer guarantee thereby excluding it becomes inevitable to ensure quality is not compromise. extant of literature affirmed the need to exclude missing data to ensure credibility for instance, Hair et al., were unanimously in work at various times of the need to exclude out rightly questionnaires with missing information; if there random and substantially missing information remover should be the ultimate of such defective questionnaire (R. Y. Cavana, Delahaye, & Sekaran, 2001; Mokhtar, Maiyaki, & Mohd Noor, 2011).

Further analysis can be carryout so long there are no impediments arising from returned questionnaires except otherwise, thus in the absence of incompleteness and sufficient numbers available, the SPSS software was utilized to execute the descriptive statistics for the study.

### ***Assessment of Outliers***

Another concern is the issue of outliers which can have some negative consequences on the final outcomes, what is outlier is can be define as the exaggeration of score with the possibility of having adverse impact on the findings. (Mokhtar et al., 2011), whilst outliers' problem can create unexpected uncommon extremely high or low values which is inconsistency with the expectations. this will lead to a mixture as soon as multiple construct are formulated which lead to test deviating from the rest of the findings or remnant (Hair, 2010; Hair Jr, Babin, & Anderson, 2010).

Consequently, assessing the z-score outliers exceeding 3.29 is considered as univariate outlier (Tabachnick, Fidell, & Ullman, 2007) and whilst 12 cases in the course of analysis were detected and deleted.

Furthermore, the Mahalanobis Distance (D) was employed to uncover any formed of multivariate outlying lapses to be identified and resolve at eased (Hair Jr et al., 2010) as

recommended by Tabachnick and Fidell (Tabachnick et al., 2007) in their assertion they claimed that various items utilized in study are brought under the subjection under the chosen degree of freedom in the Chi-square table, in this case a total of 21 items are subscribed to the degree of freedom of  $P < 0.05$  depleting the desired standard which is value at 32.671. subsequently, any value possessing a Mahalanobis Distance of 32.671 or more is no doubt perceived as a multivariate outlier that require to be completely removed. Favourably as things look in this research no particular case was found wanting no exceeded the stated standard of 32.671.

### **Normality**

All multivariate analysis are require to be objective hence, the need to carry out normality test to validate it (Hair Jr et al., 2010) along with the reference suggested by Tabachnick and Fidel (Hair Jr et al., 2010) indicated that the total number of items applied in a study must be subjected to normality test with the nature of the circulation of data for a single regular construct in line with the relationship of that normal distribution (Hair Jr et al., 2010) based on their claimed, most of the vital postulation in multivariate supposition in the multivariate analysis is the test normality.

This study utilised both the univariate and the multivariate normality test normality in all spheres as required.

It was noted that the values of skewness are discovered to be 2, also the value presented by kurtosis are found to be below 7. Henceforth the range of acceptable values of the required skewness is  $< 2$  and  $< 7$  representing the kurtosis (Gorondutse & Hilman, 2014). Therefore, the values fell within the parameter of expected range.

Since the values of the above is within the acceptability range the prudent thing to do is to simply transform the variable that will simply improve the outcomes (Tabachnick et al., 2007). Furthermore, another aspect is that Homoscedasticity test being also part of the normality presumption hence, heteroscedasticity is not found when data is basically normal whilst the valuable are presumed to be homoscedastic (Tabachnick et al., 2007). The non-availability of heteroscedasticity, and the presumption of homoscedasticity are both sufficient are seem in this research proven too univariate and the multivariate normality are validated.

### **Multicollinearity**

Based on Maiyaki and Mokhtar work in 2011(Mokhtar et al., 2011) multicollinearity simply weaken analysis carried out, due to the relationship among multiple variables which increase in size of error known as interrelated variables with irrelevance information. This resolved this



issue is simply eliminating the interrelating variable (Gorondutse & Hilman, 2014). correlation of VIF/tolerance level Analysis can be adopted.

### **Correlation Analysis**

To ensure the direction and strength of the relationship is adequate within the range of the variable used in the study are harness, the adoption of Pearson correlation was utilized effectively. This will assist to comprehend if there are lapses o between f multicollinearity or the absence of it. based on the contribution of (Tabachnick et al., 2007) the problem associated multicollinearity comes up when the interrelationship between variables is beyond 0.9 and above. Henceforth the Pearson Correlation analysis is depicted in Table 4 below:

Table 4.The Correlation among the research variables applied.

<b>S/No</b>	<b>Variables Used</b>	<b>1</b>	<b>2</b>	<b>3</b>
1	ATTIT	1		
2	PERN	.465**	1	
3	PEBC	.636**	.294**	1

\*\* $p < 0.001$  (1-tailed); ATTIT= Attitude, PERN= Personal Norms, PEBC= Perceived Behavioural Control, ENTIN= Entrepreneurial Intentions.

According to the contribution of Tabachnick and Fidell work in 2007 and this assumption strengthened by (Hair, 2010; Hair Jr et al., 2010), As seen in the above table, the variable is up above the benchmark value of 0.9 therefore, there is no any problem of multicollinearity in the entire analysis henceforth it valid. (Tabachnick et al., 2007) and (Hair Jr et al., 2010).

### **Variance Inflation Factor (VIF)**

The contribution of Gorondutse and Hilman in 2014(Gorondutse & Hilman, 2014), clearly assumed that one way to resolving the issue of multicollinearity is through Variance Inflation Factor (VIF) and the assumed tolerance level. The regression analysis using the SPSS (Gorondutse an i d Hilman 2014). Based on (Hair, 2010) the tolerance value must go way beyond the value of 0.10 in which the VIF value must not go beyond 10. This is when the expected tolerance value for each independent variable from others.

Table 5. VIF and tolerance values for multicollinearity test

S/No	Variables	Tolerance values	VIF
1.	Attitude	.565	1.802
2.	Personal Norms	.791	1.282
3.	Perceived Behavioural Control	.575	1.711

From the Table above we can conclusive say that no multicollinearity exist due to the fact that VIF for the above variables are below 10 while the tolerance level is beyond 0.10.

### ***Factor Analysis for the Variables***

Even though the various assemble items were simply ideas assembled from past studies, the whole variable adopted and utilised came under the subjection of Principal Component Analysis via the SPSS software (Bresnahan, Brynjolfsson, & Hitt, 2002; Hair, 2010). Hence the various factor) are timeless and still valid. The outcomes of virtually all the values were < 0.9 when view from the correlation matrix point in which data are void of multicollinearity (Hair Jr et al., 2010). At the co-efficient with values of values of > 0.3 thus, the initial of principal component analysis is attained (Gorondutse & Hilman, 2014).

The contribution of Kaiser's work in 1974 approved or assumed that Kaiser-Meyer-OLkin (KMO) values perked between the ranges of 0.5 TO 0.7 are simply average, essentially, the value between 0.7 to 0.8 are assumptions or regarded as good, more importantly the values ranges from 0.8 and 0.9 are rated as great; furthermore, the values from 0.9 are classified as excellent. The outcomes of the KMO measure of the sampling was found to be 0.895 far beyond the value perked at 0.6 as suggested by Kaiser (Kaiser, 1974; Kemal Avkiran, 1994; Mokhtar et al., 2011). The final judgement therefore, is that the data is fit for the factor analysis due to the fact that it values at 0.895 considered to be great.

Additionally, the Bartlett's Test of Sphericity revealed a statistically significant value of  $P > 0.001$  which sustained the factorability of the correlation matrix, noting some associations between the variables under study. Furthermore, the test carried out using Bartlett's Test of Sphericity showed a validated significant value of  $P > 0.001$  strengthening a factorability in line with the matrix correlation, reckoning with parts of the variable being investigated in this work The aggregate cumulative variance is 40.676. Thus, the findings clearly indicated a collection of value rally above 0.5 for all listed items with the peculiarity of PEBC2 that was 0.497 of course which is worthy to be eliminated. The essence of doing that is come to terms with Kaiser's assumption, (Kaiser, 1974)which opined that the value of communality in every variable must

capture a value of at least  $\geq 0.50$ . Table 6 indicated that the values consistence with communality and factor loading for every listed variable.

Table 6. Computed Factor loading and communality for exogenous the variables

S/No	Listed Items	Loadings	Communality
1.	Attitude1	.549	.548
2.	Attitude2	.689	.731
3.	Attitude3	.687	.756
4.	Attitude4	.513	.733
5.	Attitude5	.785	.675
6	PNMS1	.409	.757
7	PNMS2	.560	.725
8	PNMS3	.507	.731
9	PEBCR1	.519	.621
10	PEBCR2	.664	.487
11	PEBCR3	.710	.641
12	PEBCR4	.596	.761
13	PEBCR5	.592	.668
14	PEBCR6	.685	.670
15	PEBCR7	.712	.542
16	ENINT1	.638	.683
17	ENINT2	.654	.674
18	ENINT3	.762	.691
19	ENINT4	.750	.786
20	ENINT5	.487	.743
21	ENINT6	.774	.697

PNMS= Personal Norms, PEBCR= Perceived Behavioral Control, ENINT= Entrepreneurial Intentions.

The Table 6: Above revealed that all earlier assumptions in this study it further proved that all the constructs were dully measured at various point as stated previously.

### Reliability Analysis

The terms reliability test simply ensured that the degree or the extent which of which measure is void of error displace of results, the idea behind it all is to ensure consistency, stableness and above all goodness of the measure variable from here, Cronbach alpha is commonly utilized to

achieved this objective (R. Cavana & Elias, 2011). To be able to carry out this task of measurement using Cronbach alpha, the utilization of coefficient alpha will ensure a reliable continuity of scale when applied (Suppiah & Singh Sandhu, 2011). Cronbach alpha displayed to connection among variables (R. Cavana & Elias, 2011) Hence, the more closely related a value is to 1, the greater the inbuilt or inward consistency. All the sum total values in Cronbach alpha are no doubt beyond or greater than 0.70 as seem in this empirical investigation, whilst the, thus; the instruments are internally consistent. the measurement tool is inwardly consistent. The findings of the reliability analysis are authenticated in the table 7 below.

Table 7. A highlight of Cronbach coefficient alpha values for attitude imbibe, Personal norms, Perceived behavioural control and Entrepreneurial intentions

S/No	Variables	Items	Cronbach alpha Values
I.	Attitude	5	.785
II.	Personal Norms	3	.790
III.	Perceived Behavioural Control	7	.841
IV.	Entrepreneurial Intention	6	.826

### LIMITATIONS OF THE STUDY

Field data gotten from the region of study can be unintentionally grossly subjective and bias in it processing and formulation ridden with errors and inconsistency across the universities graduates opinion sampled in this study. another shortcoming is the amount of data and preliminary outcomes presented via several different email which resulted in unprecedented delayed. Also, noted is the numbers of graduates that responded sometimes contradictory or otherwise unsure of the accuracy of information supplied via email. Significantly, the results should therefore be treated with even more than the usual degree of caution” (Deaton & Miller, 1995). Regrettably, barely just enough respondents were sample for this study future researchers should increase the population of sampling size to ensure increase in the representation of the study in terms of the proportion and sizes of respondents to guarantee robustness of study.

### CONCLUSION

In conclusion, this empirical investigation no doubt has proven that the data utilization via the multivariate analysis are worth it having observed through the various analysis as suggested by (Tabachnick et al., 2007) that multi-collinearity can be avoided when applying univariate and multivariate principle in analysis, hence, the study is void of Non-response bias. Therefore, the

data can further be utilized for multivariate analysis as (Tabachnick et al., 2007). Therefore, the reference as opined. The data is neat and screened completely thus, ready for multivariable analysis (Tabachnick et al., 2007) Multi-collinearity was also not found to exist in reference as the suggestions of (Tabachnick et al., 2007) as well as Hair et al (Hair, 2010). The general implication of this findings include among several others factors, the enormous advantages that will be derive by future researcher when conducting a multivariate researches by simply manipulating the dataset for further analysis of the phenomenon in multiple ways as a result this fact, it has become a source of literature to researchers in this subject under discuss in this study and similar topics as well. finally, the further the analysis are carry out in the future the brighter and deeper will be the understanding as to why and how this might be assorted in such an intensifying contextual developing environment viewpoint especially in Sub-Saharan of Africa.

Having understood and intensively delved into the challenges above the following policy recommendations are carefully submitted for all the relevance stakeholders to expedite actions accordingly;

- The Supervision efforts by the ministry of education in collaboration with ministry of commerce and industry should jointly instill the idea of entrepreneurship education from the drawing the board via school syllabuses creation to it implementation especially in tertiary institutions
- The Government through ministries of education /Commerce and industry should encourage graduates first via tutorship that is to study curriculum dedicated to graduates knowledge acquisition. Promotion of self-employment should be reinvigorated. A career in entrepreneurship by establishing Small-Scale Businesses in various parts of Nigeria should be the main goal.
- Government through policy and schemes should overhaul the annual compulsory national service to strictly become an entrepreneurship affair in ramifications. Since there have been instilled knowledge during their studies years, the final phase should be via national service to handle the feasibility training to ensure graduate are supported financially and tax-holiday granted to the mensuring they start-up of their government-supported Small and Medium Enterprise (SME) upon completion of the national service this will ensure a career upon graduation resolving the constant wide-spread 'epidemic' of acute unemployment crisis especially among graduates.

**Author Contributions:** ZLL: supervised and approved the research work from the beginning to the end. He consented to all the methods and proofread the work for the final approval. JOA: generated the topic

and all other segments including the entire framework from abstract to conclusion that was used to write the paper. ZXJ: facilitated the approval and allocation of research grant released. She also proofread the entire work to ensure a thorough and perfect work. BBU: He properly re-articulated the entire work, proofread and corrected all the grammatical errors. AO: rigorously involved into the literature review and introduction aspects of the work; ensuring every relevance details was well-articulated and empirically discussed in the introduction of the work. PMJ: Synergized with fellow colleagues and researchers to designed and execute the multi-methods and simulations using the software. EOA: carried out the mathematical modelling, codifications.

**Funding:** This empirical work was supported by the National Natural Science Foundation of China (NSFC),71804061.

**Acknowledgments:** We thank the National Natural Science Foundation of China for their generosity and funding support granted for the work.

**Conflicts of Interest:** We the authors hereby declare there is no any conflict of interest; furthermore, “The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results”.

## REFERENCES

- Agbim, K. C., Oriarewo, G. O., & Owocho, M. (2013). Factors influencing entrepreneurial intentions among graduates of Nigerian tertiary institutions. *International Journal of business and management invention*, 2(4), 36-44.
- Ali, A., Topping, K. J., & Tariq, R. H. (2010). Entrepreneurial Attributes among Postgraduate Students of a Pakistani University. *Online Submission*, 7(5), 66-77.
- Angriawan, A., Conners, S. E., Furdek, J., & Ruth, D. (2012). An empirical examination of entrepreneurial intent in the equine industry. Paper presented at the Allied Academies International Conference. *Academy of Entrepreneurship. Proceedings*.
- Baltacıoğlu, E., Yuva, P., Aydın, G., Alver, A., Kahraman, C., Karabulut, E., & Akalın, F. A. (2014). Lipid peroxidation levels and total oxidant/antioxidant status in serum and saliva from patients with chronic and aggressive periodontitis. *Oxidative stress index: a new biomarker for periodontal disease? Journal of periodontology*, 85(10), 1432-1441.
- Bresnahan, T. F., Brynjolfsson, E., & Hitt, L. M. (2002). Information technology, workplace organization, and the demand for skilled labor: Firm-level evidence. *The Quarterly Journal of Economics*, 117(1), 339-376.
- Cavana, R., & Elias, A. (2011). *Stakeholder Analysis for Systems Thinking and Modelling*. Public Management.
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*: John Wiley & Sons Inc.
- Deaton, A., & Miller, R. I. (1995). *International commodity prices, macroeconomic performance, and politics in Sub-Saharan Africa*: International Finance Section, Department of Economics, Princeton University ....
- Dept, W. B. L. (1995). *The World Bank and Legal Technical Assistance: Initial Lessons (Vol. 1414)*: World Bank.
- Doğan, E. (2015). The effect of entrepreneurship education on entrepreneurial intentions of university students in Turkey. *Ekonometri ve İstatistik e-Dergisi*(23), 79-93.
- Easterly, W. (2009). How the millennium development goals are unfair to Africa. *World Development*, 37(1), 26-35.
- Ekpe, I., Razak, R. C., & Mat, N. B. (2013). The performance of female entrepreneurs: Credit, training and the moderating effect of attitude towards risk-taking. *International Journal of Management*, 30(3), 10-23.
- Farrukh, M., Alzubi, Y., Shahzad, I. A., Waheed, A., & Kanwal, N. (2018). Entrepreneurial intentions: The role of personality traits in perspective of theory of planned behaviour. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(3), 399-414.

- Gorondutse, A. H., & Hilman, H. (2014). Effect of business social responsibility (BSR) on performance of SMEs: Data screening and preliminary analysis. *Asian Social Science*, 10(8), 103.
- Hair, J. F. (2010). Black, Wc, Babin, Bj, & Anderson, Re (2010). *Multivariate data analysis*, 7.
- Hair Jr, J. F., Babin, B. J., & Anderson, R. E. (2010). *A GLOBAL P-ERSPECT-IVIE*.
- Hjorth, D., Holt, R., Fernandez, P., & Farias, C. (2016). *Organizational entrepreneurship and the political*: Taylor & Francis.
- Iakovleva, T., Kolvereid, L., & Stephan, U. (2011). Entrepreneurial intentions in developing and developed countries. *Education+ training*, 53(5), 353-370.
- Kaiser, K. L. (1974). On the optical activity of polychlorinated biphenyls. *Environmental Pollution* (1970), 7(2), 93-101.
- Kemal Avkiran, N. (1994). Developing an instrument to measure customer service quality in branch banking. *International Journal of Bank Marketing*, 12(6), 10-18.
- Kolvereid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing*, 21(6), 866-885.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5-6), 411-432.
- Krueger, N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: applying the theory of planned behaviour. *Entrepreneurship & Regional Development*, 5(4), 315-330.
- Lagat, F. K., Mugo, R., & Otuya, R. (2013). Effect of credit risk management practices on lending portfolio among savings and credit cooperatives in Kenya.
- 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.
- Liñán, F., Nabi, G., & Krueger, N. (2013). British and Spanish entrepreneurial intentions: A comparative study. *Revista de economía mundial*, 33, 73-103.
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International entrepreneurship and management Journal*, 7(2), 195-218.
- Mahmoud, M. A. (2015). Developing Countries and the Entrepreneurial Intention of Postgraduates: A Study of UUM Nigerian Postgraduate Candidates. Paper presented at the Proceedings of 32nd The IIER International Conference, Dubai, UAE, 8th ISBN: 978-93-85465-69.
- Mahmoud, M. A., & Muharam, F. M. (2014). Factors affecting the entrepreneurial intention of PhD candidates: a study of Nigerian international students of UUM. *European Journal of Business and Management*, 6(36), 17-24.
- Mahmoud, M. A., Muharam, F. M., & Mas' ud, A. (2015). Factors that influence the entrepreneurial intention of Nigerian postgraduates: Preliminary analysis and data screening. *Asian Social Science*, 11(4), 180.
- Mainwaring, S., & Pérez-Liñán, A. (2013). *Democracies and dictatorships in Latin America: emergence, survival, and fall*: Cambridge University Press.
- Maiyaki, A. A., & Mohd Mokhtar, S. S. (2011). Determinants of customer behavioural responses: A pilot study. *International business research*, 4(1), 193-197.
- Malebana, J. (2014). Entrepreneurial intentions of South African rural university students: A test of the theory of planned behaviour. *Journal of Economics and behavioral studies*, 6(2), 130-143.
- Mokhtar, S., Maiyaki, A., & Mohd Noor, N. (2011). The relationship between service quality and satisfaction on customer loyalty in Malaysian mobile communication industry. *School of Doctoral Studies (European Union) Journal*, 2(3), 32-38.
- Nabi, G., & Liñán, F. (2011). Graduate entrepreneurship in the developing world: intentions, education and development. *Education+ training*, 53(5), 325-334.
- Niger Delta, H. Report,(2006). *The Niger Delta Human Development Report* written by the UNDP Nigeria Office, Abuja.
- Nwekeaku, C. (2013). Entrepreneurship education and challenges to Nigerian universities. *Journal of Education and practice*, 4(3), 51-56.



- Ogundipe, S. E., Kosile, B. A., Olaleye, V., & Ogundipe, L. (2012). Entrepreneurial intention among business and counselling students in Lagos State University Sandwich Programme. *Journal of Education and practice*, 3(14), 64-72.
- Okeke, M. I. (2014). Challenges facing entrepreneurs in Nigeria. *Singaporean Journal of Business, Economics and Management Studies*, 51(1812), 1-17.
- Okonkwo, C. N. P., Kumar, L., & Taylor, S. (2015). The Niger Delta wetland ecosystem: What threatens it and why should we protect it? *African Journal of Environmental Science and Technology*, 9(5), 451-463.
- Otuya, R., Kibas, P., Gichira, R., & Martin, W. (2013). Entrepreneurship education: Influencing students' entrepreneurial intentions. *International Journal of Innovative Research & Studies*, 2(4), 132-148.
- Owoseni, O., & Akambi, P. (2010). Entrepreneurial intentions: A theoretical framework. *Journal of management and corporate governance*, 2(4), 132-148.
- Saeed, S., Yousafzai, S., Yani-de-Soriano, M., & Muffatto, M. (2016). 1.1 The role of perceived university support in the formation of students' entrepreneurial intention. *Sustainable Entrepreneurship: Discovering, Creating and Seizing Opportunities for Blended Value Generation*.
- Schunkert, H., König, I. R., Kathiresan, S., Reilly, M. P., Assimes, T. L., Holm, H., . . . Gieger, C. (2011). Large-scale association analysis identifies 13 new susceptibility loci for coronary artery disease. *Nature genetics*, 43(4), 333.
- Sheikh, K., & Mattingly, S. (1981). Investigating non-response bias in mail surveys. *Journal of Epidemiology & Community Health*, 35(4), 293-296.
- Singh Sandhu, M., Fahmi Sidique, S., & Riaz, S. (2011). Entrepreneurship barriers and entrepreneurial inclination among Malaysian postgraduate students. *International Journal of Entrepreneurial Behavior & Research*, 17(4), 428-449.
- Souitaris, V., Zerbini, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566-591.
- Stadtler, H. (2005). Supply chain management and advanced planning—basics, overview and challenges. *European journal of operational research*, 163(3), 575-588.
- Suppiah, V., & Singh Sandhu, M. (2011). Organisational culture's influence on tacit knowledge-sharing behaviour. *Journal of knowledge management*, 15(3), 462-477.
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5): Pearson Boston, MA.
- Taha, K. A. S., Ramlan, S. N., & Noor, I. M. (2017). The Factors Affecting Entrepreneurial Intentions of University Students in Malaysia. *International Journal of Business and Technopreneurship*, 7(2), 189-202.
- Tamuno, T. N. (1999). The niger delta question. Lecture delivered under the joint auspices of The Rivers State College of Arts and Science, Port Harcourt and The Rivers State University of Science and Technology, Nkpolu, Port Harcourt. *The Guardian*, 30.
- Uddin, M. R., & Bose, T. K. (2012). Determinants of entrepreneurial intention of business students in Bangladesh. *International Journal of Business and Management*, 7(24), 128.