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**ENTREPRENEURSHIP EDUCATION AND ENTREPRENEURIAL CAREER
OPTION: THE ROLE OF ENTREPRENEURIAL SELF-EFFICACY, PERCEIVED
DESIRABILITY AND SUPPORTIVE ENVIRONMENT**

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UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2017**

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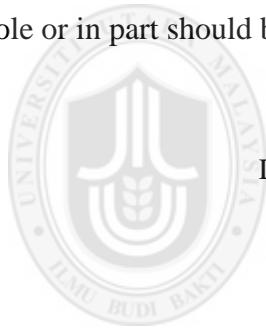
YAKUBU ABDULLAHI YARIMA

**Thesis Submitted to
School of Business Management
Universiti Utara Malaysia
in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

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Abstrak

Kajian ini direka bentuk untuk meninjau peranan perantara keberkesanan keusahawanan sendiri (ESE) *perceived desirability* (PDE) serta peranan penyederhana persekitaran sokongan (SEN) dalam hubungan antara pengetahuan keusahawanan (EEK), kemahiran keusahawanan (EES), dan pilihan kerjaya keusahawanan (ECO) dalam kalangan pelajar universiti di Nigeria. Data dikumpul daripada pelajar tahun akhir di enam buah universiti di utara Nigeria bagi sesi akademik semasa 2015/2016 dengan menggunakan borang soal selidik berstruktur. Data dianalisis dengan menggunakan persamaan struktur model Smart-PLS (2.0). Data diperolehi daripada sampel 395 orang responden dan digunakan untuk menguji hipotesis. Keputusan mendapati terdapat hubungan positif yang signifikan antara EEK dan pilihan kerjaya keusahawanan pelajar. Walau bagaimanapun, kajian mendapati tiada hubungan yang signifikan antara EES dan pilihan kerjaya keusahawanan pelajar. Selain itu, kajian ini menunjukkan bahawa ESE dan PDE mengantara secara signifikan hubungan antara EEK, EES, dan pilihan kerjaya keusahawanan pelajar. Tambahan pula, kajian menunjukkan bahawa persekitaran sokongan menyederhana secara signifikan hubungan antara EEK dan pilihan kerjaya keusahawanan pelajar. Namun, kajian menunjukkan bahawa persekitaran sokongan tidak mempunyai kesan penyederhana yang signifikan terhadap hubungan antara EES, ESE, PDE, dan ECO. Keputusan kajian ini memberi gambaran penting kepada institusi akademik, pendidik, pembuat dasar dan pihak berkepentingan lain untuk memahami lagi pengaruh EEK, EES, ESE, dan PDE terhadap pilihan kerjaya keusahawanan pelajar. Kajian itu mengesyorkan supaya pembuat dasar mewujudkan persekitaran sokongan yang kondusif bagi menggalakkan pilihan kerjaya keusahawanan pelajar. Akhir sekali, batasan kajian dan cadangan kajian lanjutan juga dibincangkan.

Kata kunci: Pilihan kerjaya keusahawanan, pendidikan keusahawanan, keberkesanan keusahawanan sendiri, keinginan tertanggap, persekitaran sokongan.

Abstract

The study was designed to explore the mediating role of entrepreneurial self-efficacy (ESE) and perceived desirability (PDE), and the moderating role of supportive environment (SEN) on the relationship between entrepreneurial knowledge (EEK), entrepreneurial skills (EES) and entrepreneurial career options (ECO) among university students in Nigeria. Using structured survey questionnaires, the data of the study were collected from final year students across six universities in Northern Nigeria during the 2015/2016 academic session. The study used the structural equation modelling Smart-PLS (2.0) to analyze the data obtained from a sample of 395 respondents, and to test the hypotheses. The results established a significant positive association between EEK and the students' entrepreneurial career options. However, the study found no significant association between EES and the students' entrepreneurial career options. In addition, the study established that ESE and PDE significantly mediate the association between EEK, EES and the students' entrepreneurial career options. Furthermore, the study established that supportive environment significantly moderates the association between EEK and the students' entrepreneurial career options. On the contrary, the study established that supportive environment does not have a significant moderating effect on the association between EES, ESE, PDE and ECO. The results of the study provide important insights to academic institutions, educators, policy-makers and other stakeholders to further comprehend the influences of EEK, EES, ESE, PDE on students' entrepreneurial career options. The study recommended, among others, that policy-makers should create an enabling supportive environment that encourages students' entrepreneurial career options. Finally, limitations of the study and suggestions for future research were discussed.

Keywords: Entrepreneurial career option, entrepreneurship education, entrepreneurial self-efficacy, perceived desirable, supportive environment.

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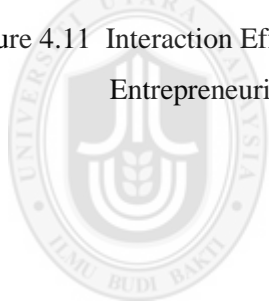
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List of Abbreviations

BoI	Bank of Industry
ECO	Entrepreneurial Career Option
EDC	Entrepreneurial Development Centre
EE	Entrepreneurship Education
EEK	Entrepreneurial Knowledge
EES	Entrepreneurial Skills
ESE	Entrepreneurial Self-efficacy
FCT	Federal Capital Territory
GEF	Graduate Entrepreneurship Fund
GEM	Global Entrepreneurship Monitor
GoF	Goodness of Fit
HCT	Human Capital Theory
HEIs	Higher Educational Institutions
ILO	International Labour Organisation
JAMB	Joint Admission & Matriculation Board
M	Mean
NBS	National Bureau of Statistics
NDE	National Directorate of Employment
NIDB	Nigeria Industrial Development bank
NOAs	National Open Apprenticeship Schemes
NUC	National Universities Commission
NYSC	National Youth Service Corp
OECD	Organisation for Economic Cooperation Development
PDE	Perceived desirability
PLS	Partial Least square
R ²	R-squared
SAED	Skills Acquisition & Entrepreneurship Development
SAS	Statistical Analysis System
SCCT	Social Cognitive Career Theory
SCT	Social Cognitive Theory
SD	Standard Deviation
SEM	Structural Equation Modelling
SEN	Supportive Environment
SMEDAN	Small & Medium Enterprises Development Agency of Nigeria
SMEs	Small & Medium Enterprises
SPSS	Statistical Package for the Social Sciences
TEA	Total early-stage Entrepreneurial Activity
TPB	Theory of Planned Behaviour
UK	United Kingdom
USA	United States of America
VAF	Variance Accounted For
VIF	Variance Inflated Factor

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The concept of entrepreneurship education (EE) has recently become a major focus for educational systems all over the world (Akpomi, 2008). Acclaimed literatures indicate creation of new ventures and growing businesses are fundamental solution to unemployment and the quickest way to fast-track the economy and reduce poverty (Ndedi, 2012). Obviously, EE has succeeded in many developed countries and it has been adopted and applied in the educational institutions of many developing nations (Uduak & Aniefiok, 2011). Moreover, the importance of EE in the promotion of entrepreneurial career has been extensively recognized (Orford, Herrington, & Wood, 2009). In this regard, the educational system plays an important role in developing entrepreneurial skills, competencies and attitudes in several ways which in turn stimulates future entrepreneurial career choice. Similarly, EE is considered as the most effective means of embedding an entrepreneurial culture in Higher Educational Institutions (HEIs) by fostering students' entrepreneurial mind-set and increasing the supply of future graduate entrepreneurs (Ellen, 2010; Jones, Miller, Jones, Packham, Pickenell & Zbierowski, 2011).

Additionally, Entrepreneurial Career Option (ECO) which turns into entrepreneurial activities support nations in developing their economies by increasing the levels of employment especially those countries that have previously suffered from high

unemployment (Altinay, Madanoglu, Daniele & Lashley, 2012; Malchow-Moller, Schjerning & Sorensen, 2011). In the recent years, attention has been focused on entrepreneurial career as leading economic factor for creating job opportunities, economic growth, wealth creation, poverty reduction, and positive social development (Ethugala, 2011; Kelley, Singer & Herrington, 2012). However, Rae, Penaluna and Dhaliwal (2011) argue the need for universities to develop in their graduates an entrepreneurial mind-set, skills and experience as part of their program of study. Similarly, Potter (2008) called upon HEIs' management to redirect resources in promoting entrepreneurship through courses; knowledge exchanges with enterprise; instilling an entrepreneurial culture; and creating a greater awareness of entrepreneurial values. Whilst Karimi, Chizari, Biemans and Mulder (2010) suggest that entrepreneurial career can be taught and hence entrepreneurial career decision significantly influenced by EE.

Accordingly, Global Entrepreneurship Monitor (GEM) reports suggest that there are opportunities to be seized for entrepreneurial development everywhere around the globe. Moreover, the reports emphasis that the conversion of these opportunities into viable business venture depends on individual traits, social standards and the entrepreneurial ecosystem including educational background, government policies, research and development, accessibility to finance, as well as infrastructural facilities (GEM, 2014). In another report, GEM specified that people at the factor-driven economies such as Nigeria incline to articulate more positive attitudes on entrepreneurial procedures such as opportunities identification and entrepreneurial skills to start a new business venture (GEM, 2013).

In addition, the report emphasized that among the factor-driven economies in the sub-Saharan African countries record the highest Total early-stage Entrepreneurial Activity (TEA) rates, particularly Nigeria and Zambia with 39% of their total adult population engaged in an early-stage entrepreneurial activity. Similarly, Organization for Economic Cooperation and Development (OECD) stated that the development of entrepreneurial consciousness and encouraging positive attitudes towards entrepreneurial career are among the major policy agenda of several countries worldwide (OECD, 2010). Furthermore, report emphasized on change in attitudes and perceptions toward entrepreneurial career for individuals to engage in any entrepreneurial activities.

Eventually, graduates unemployment in Nigeria has become an issue of national concern (Samuel, Bassey & Samuel, 2012). Consequently, so many efforts were placed by the Nigerian governments in that regard, such efforts includes the establishment of institutions such as the Entrepreneurship Development Centre (EDC), Nigeria Industrial Development Bank (NIDB) now Bank of Industry (BoI), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), National Directorate of Employment (NDE), National Open Apprenticeship Schemes (NOAs), etc. Furthermore, the Nigerian government in efforts to ensure job security and employment opportunities for graduates and way to converts youth and graduates unemployment introduced a compulsory entrepreneurship education course at university level of the nation's educational system. According to Uduak and Aniefiok (2011), in July, 2004 the Nigerian universities were directed by the National Universities Commission (NUC) to introduce entrepreneurial studies in their curriculum as the way forward for solving severe youth and graduates unemployment

problem in the country. In addition, currently the Nigerian President Muhammadu Buhari articulated at his inauguration speech that the major challenges facing the country include general insecurity and youth and graduates unemployment among others (Daily Trust, 2015). The president emphasized further on the readiness of present administration under his leadership to meet these challenges.

Additionally, as part of the government's several efforts to solve graduates unemployment in the country was the recent introduction of Graduate Entrepreneurship Fund (GEF). The National Youth Service Corp (NYSC) in collaboration with BoI launched GEF in 2015 to assist graduate entrepreneurs to have easy access to finance. The managing director of BoI Mr. Rasheed Oloaluwa stressed the need for GEF to enable graduates to actualize their entrepreneurial career aspirations since jobs availability did not keep pace with the growing of the population in the country. Furthermore, the NYSC directorate has put several efforts in promoting an entrepreneurial mind-set among the graduates through its Skill Acquisition and Entrepreneurship Development (SAED) programs. The strategy identifies the distinctive entrepreneurial abilities of university graduates as soon as they complete their study. In addition, the directorate organizes capacity building training to promote involvement of university graduates into entrepreneurial career for self-reliance, thus generating job for themselves and become self-employed (Leadership, 2015). Despite all these efforts many graduates in Nigeria do not prefer entrepreneurship as a career option and subsequently only few become entrepreneurs after graduation (Garba, Kabir & Nalado, 2014; Okoli & Allahna, 2014; Oriarewo, Agbim & Aondoseer, 2013).

In this direction, Raimi and Adeleke (2010) pointed out that graduates lack the entrepreneurial skills and confidence to be self-reliance; and this supported by Aja-Okorie and Adali (2013) who viewed that graduates in Nigeria can only read and write to secure white color jobs but lack the Entrepreneurial Self-Efficacy (ESE) and professional skills to stand on their own as entrepreneurs. In addition, Odia (2013) lamented that educational institutions in Nigeria produce thousands of graduates who are unemployed, largely because graduates were not equipped with functional knowledge and lack the entrepreneurial self-confidence and the skills that will make them self-reliance. Ogundeji (2014) identified ESE as the major driving factor stimulating entrepreneurial career among graduates; hence need to be carefully considered in entrepreneurial training. Similarly, Inyang and Enuoh (2009) were also on the view that absence of self-efficacy been the major factor responsible for failure of many entrepreneurs in Nigeria. Meanwhile according to Oyeku (2014) entrepreneurs require competency, orientation and self-efficacy to be successful in a constantly dynamic business environment.

According to Garba, Kuburi and Anafi (2012) the attitude towards labor of average Nigerian has been ruined and distorted due to the nation' oil explosion and that also affected the desirability for entrepreneurial career. Subsequently, an average Nigerian chooses to be employed than entrepreneurial career which needs expertise and innovation. Furthermore, the university program is not primarily geared towards providing students with ESE and skills required for self-employment. Brijla (2011) emphasized that desirability perceptions about entrepreneurial career are essentially important and set the basis for becoming an entrepreneur long before an individual actually makes the choice for ECO. However, Duru (2011) urged the need for

transformation of the individual's mind-set of average Nigerian particularly the youths towards embracing entrepreneurial career which the desires are lacking.

GEM report (2012) highlights the significance of Supportive Environment (SEN) for the promotion of entrepreneurial activity. Sagagi (2007) suggests that fostering SEN encourages entrepreneurial career among graduates in Nigeria. Similarly, Adejimiola and Olufunmilayo (2009) recommended that the Nigerian entrepreneurial ecosystem need to be harnessed before meaningful entrepreneurship development can take place. In addition, Glad (2009) recommends that the government should established mechanism that promote entrepreneurial career activities among graduates by providing enabling environment in the country. According, Oriarewo et al. (2013) for graduates to consider ECO, government need to address urgently the dilapidated infrastructural facilities and provide SEN that encourages entrepreneurial activities in the country. Furthermore, Okoli and Allahna (2014) suggest that SEN should be provided to enable Nigerian graduates to practice their entrepreneurial skills and consider entrepreneurship as alternative career option. However, Ifedili and Ofoegbu (2011) attributed to lack of government commitment in the provision of fund, ignorance on the value of entrepreneurship and poor infrastructure as the major obstacles for entrepreneurial career in Nigeria.

Therefore, based on the above discussion the following have been identified as the major challenges confronting graduates of Nigerian universities in relation to entrepreneurial career choice: lack of ESE, low desirability for entrepreneurial career, absence of SEN (Aja-Okorie & Adali, 2013; Brijla, 2011; Duru, 2011; Garba et al.

2012; Ifedili & Ofoegbu, 2011; Odia, 2013; Ogundeji, 2014; Okoli & Allahna, 2014; Oriarewo et al. 2013; Oyeku, 2014; Raimi & Adeleke, 2010).

1.2 Problem Statement

Obviously, Nigeria with an estimated population of 178,516,904 (National Bureau of Statistics, 2015) and the economy is characterized with high rates of youth and graduates unemployment as serious challenge to the nation. Accordingly, National Bureau of Statistics (NBS) reported that unemployment rate in Nigeria has been constantly growing at alarming rates from 2005 – 2011 and slightly drop down from 2012 - 2015. The Table 1.1 below presents the Nigerian unemployment rates from 2005 to 2015.

Table 1.1
Unemployment rates in Nigeria from 2005 – 2015

Year	05	06	07	08	09	10	11	12	13	14	15
Unemployment rate (%)	11.9	13.7	14.6	14.9	19.7	21.5	23.9	21.1	20.1	19.5	13.3

Source: NBS reports, 2010; 2015; 2016

Furthermore, International Labor Organization (ILO) reported that graduates unemployment rate in Nigeria has increased from 25.6% in 2003 to 40.3% as at July, 2009 (ILO Report, 2010). The situation became worrisome as equated to other developing countries such as Malaysia, China, Indonesia, India, South-Africa, and so on. For example, in Malaysia unemployment rate was reported at 3.1% as at December 2011, and from 1982 to 2011, Malaysia's unemployment rate averaged 3.43% (Malaysia Department of Statistics, 2012). Consequently, this shown that the

phenomenon is a very serious matter with extreme reaching implications to the economic growth and the security of the nation.

Several studies have been conducted in relation to EE and entrepreneurial career, but there are mixed findings. Among the studies that reported positive and significant relationship among the two constructs includes Jones et al. (2008) whom found that a positive association was established between EE and student's entrepreneurial career intention. Other studies reported positive and significant relationship between EE and entrepreneurial career includes Liñán, Urbano and Guerrero (2010); Ellen (2010); Naktiyok, Karabey and Gulluce (2010); Wang and Verzat (2011); Giacomini, Janssen, Pruett, Shinnar, Llopis and Toney (2011); Iakovleva, Kolvereid and Stephan (2011); Hattab (2014); Engle, Marina, Westhead, Matlay and Vladimir (2013); Rae and Woodier-Harris (2013); Molaei, Zali, Mobaraki and Farsi (2014); Hanapi and Nordin (2014); Abdulai (2015); Othman and Othman, (2015); Abd Rani and Poespowidjojo (2016); Ibrahim and Mahyuddin (2016).

In contrary, a number of studies reported a negative and significant relationship between the two variables includes Packham, Jones, Miller, Pickernell and Brychan (2010); Von Graevenitz, Harhoff and Weber (2010); Oosterbeek, Van Praag and IJsselstein (2010); Beynon, Jones, Packham and Pickernell (2014) whom reported a negative association between EE and entrepreneurial career. However, other studies revealed the average association between entrepreneurship education and entrepreneurial career is unclear and cannot be categorized as either positive or negative, these includes Souitaris, Zerbinati and Al-laham (2007); Jones et al. (2008); Grilo and Thurik (2008); Radu and Loué (2008); Olomi et al. (2009); Parker (2009);

Packham et al. (2010); Bernhofer and Li (2014). Hence, the above results signify inconsistent findings in relationship between entrepreneurship education and entrepreneurial career.

However, several studies suggest that EE will only has effects on entrepreneurial career if it changes the fundamental attitudes and perceptions of individuals in relation to entrepreneurial career such as; PDE and ESE (Krueger, Reilly & Carsrud, 2000; Linan, 2004; Linan, 2010; Karimi et al., 2010). Similarly, Abdullai (2015) recommends that PDE for self-employment and ESE are both suitable for investigation into the general perceptions for self-employment and more precisely entrepreneurial career. McMullen and Shepherd (2006) attributed that ESE and desirability of individual as the major determining factors for the realization of entrepreneurial career. In similar way, Ummah (2009) suggested that further study on EE should deliberate on the influence of desirability for self-employment on ECO.

In addition, a number of studies were conducted to look at association between ESE and entrepreneurial career (Naktiyok et al., 2010; Izquierdo & Buelens, 2011; Jose Lius, 2011; Jiang & Park, 2012; Drnovsek, Wincent & Cardon, 2010; Olakitan, 2014; Ahmad, Xavier & Abu Bakar, 2014), but reported different findings. For instant, Izquierdo and Buelens (2011) revealed a positive outcome on the relationship between ESE and entrepreneurial career. In contrary, Jose Lius (2011) reported a negative outcome on the association between ESE and entrepreneurial career. Meanwhile, Ahmad et al. (2014) reported the relationship between individual perceptions of ESE and entrepreneurial career was not entirely conclusive.

Furthermore, similar studies were conducted to investigate the link between PDE and entrepreneurial career (Fitzsimmons & Douglas, 2011; Izquierdo & Buelens, 2011; Jiang & Park, 2012; Kim-Soon, Ahmad, Saberi & Tat, 2013; Krueger, 1993; Krueger, Reilly & Carsrud, 2000; Kumara, 2012; Linan & Chen, 2009; Naktiyok et al., 2010; Olakitan, 2014; Wang, Lu & Millington, 2011). However, some of these studies reported a significant and positive relationship among the two constructs includes Linan (2010); Karimi et al. (2010); Izquierdo & Buelens (2011); Kumara (2012); Kim-Soon et al. (2013), while other studies such as Kwong, Brooksbank & Jones-Evans (2007); Akmaliah and Hisyamuddin (2009); Nishantha (2008); Packham et al. (2010); Fitzsimmons and Douglas (2011) reported a significant and negative relationship between the constructs. Hence, the above results signify inconsistent finding in the association between PDE and entrepreneurial career choice.

Based on the above, Abdullai (2015) suggests inclusion of both PDE and ESE as mediating variables in the link between EE and entrepreneurial career. Similarly, Ummah (2009) recommended the inclusion of PDE to mediate in the link between EE and entrepreneurial career. In addition, Chun-Mei, Chien-Hua & Hsi-Chi (2011) suggest inclusion of ESE as mediator to further validates the effect of EE on entrepreneurial career. Nasiru et al. (2015) suggest the insertion of supportive SEN as a moderating variable in the relationship between effective EE and entrepreneurial career. Furthermore, in accordance with Preacher and Hayes (2008) whom argued that establishing relationship between variables is important, but not sufficient condition for the two variables to be casually related. However, they suggest that of great important is explaining how or by what means the causal effect occurs.

Therefore, in this study both ESE and PDE are used as mediating variables on relationship between EE and ECO while SEN is used as a moderating variable in the study. Based on the literature consulted, the researcher did not across any study that investigates the relationship between EE and ECO using both entrepreneurial self-efficacy and perceived desirability as mediators while supportive environment will be used as moderator. Hence, the study intents to investigate the seeming contradiction in the literature reviewed and bridge in the gap identified in the literature by providing an in depth and empirically based study on the mediating role of both the ESE and PDE on link between EE and ECO using SEN as moderator.

1.3 Research Questions

Based on the problem statement above, the following questions were formulated in order to guide the study:

1. Is there any significant relationship between entrepreneurship education and entrepreneurial career option?
2. Is there any significant relationship between entrepreneurship education and entrepreneurial self-efficacy?
3. Is there any significant relationship between entrepreneurial self-efficacy and entrepreneurial career option?
4. Does entrepreneurial self-efficacy mediates relationship between entrepreneurship education and entrepreneurial career option?
5. Is there any significant relationship between entrepreneurship education and perceived desirability?
6. Is there any significant relationship between perceived desirability and entrepreneurial career option?

7. Does perceived desirability mediate relationship between entrepreneurship education and entrepreneurial career option?
8. Does supportive environment as moderator has positive significant effect on relationship between entrepreneurship education, entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option?

1.4 Research Objectives

The major objective of this study is to examine mediation and moderation effect on association between EE, ESE, PDE, SEN and ECO among the university students in Nigeria. However, more specifically the study is expected to:

1. Examine the relationship between entrepreneurship education and entrepreneurial career option.
2. Examine the relationship between entrepreneurship education and entrepreneurial self-efficacy.
3. Examine the relationship between entrepreneurial self-efficacy and entrepreneurial career option.
4. Examine the mediating effect of entrepreneurial self-efficacy on the relationship between entrepreneurship education and entrepreneurial career option.
5. Examine the relationship between entrepreneurship education and perceived desirability.
6. Examine the relationship between perceived desirability and entrepreneurial career option.
7. Examine the mediating effect of perceived desirability on the relationship between entrepreneurship education and entrepreneurial career option.

8. Examine whether supportive environment has a positive significant moderating effect on the relationship between entrepreneurship education, entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option.

1.5 Significance of the Study

The study is hoped to be significance both theoretically and practically; particularly to the range of stakeholders on effect of EE in relation with ECO. Accordingly, the significance of this research work to the body of knowledge could be explained as follows:

The study provided empirical evidence on the relationship between EE and ECO using both ESE and PDE as mediating variables and SEN as moderator. Therefore study serves as further substantiation for the previous entrepreneurial career studies and promotes better the understanding of factors prompting the antecedents to entrepreneurial behavior. However, there is need for more empirical researches in this aspect because reviewed literature highlighted a number of problems associated with EE and entrepreneurial career in many nations world over and particular the developing countries (Fayolle at al., 2006; Mc Stay, 2008; Hattab, 2014). Furthermore, the empirical evidence on the association between EE, ESE, PDE and ECO with moderating effect of SEN will strengthened previously established models such as the Entrepreneurial Intention Model (Linan, 2004), which is modification the Theory of Planned Behavior (Ajzen, 1991) and Entrepreneurial Event Theory (Shapero & Sokol, 1982), both of which are linked to the theory of reasoned action (Ajzen and Fishbein 1980). It is assumed that human actions are reasoned, controlled

and planned. Thus, action is possible consequences of the reflected behavior (Ajzen and Fishbein, 2000).

The study could offer valuable insights into the stage of EE for a range of stakeholders in Nigeria at particular and the world at large. Perhaps it is among the earliest studies of this kind in Nigeria that examine the effects of EE on students' attitude toward ECO. Consequently, the outcomes from this study would be of beneficial for variety of interested parties including academicians, policymakers, learning institutions, supervisory bodies and the public in general. More specifically, the study would serves as a feedback for policymakers and other stakeholders on the level of achievement for the new curriculum of EE in relation to the goals of the program.

Furthermore, the study would also help tertiary institutions of learning and supervisory bodies in Nigeria to identify the deficiencies of current EE programs in Nigeria and create avenue for promoting appropriate EE programs that prepare students for ECO. In addition, the study serves as a source of documents on EE for curriculum developers, educators and other stakeholders in and outside Nigeria, thus it might inform Nigerian universities, policy makers, educators and other stakeholders to incorporate curriculum activities and instructional procedures that encourage the formation and promotion entrepreneurial skills, competencies, culture, and attitudes, thereby preparing the graduates for ECO.

1.6 Scope of the Study

The focus of the study is to investigate the mediating role of both ESE and PDE on the link between EE and ECO while using supportive environment moderating variable. In addition, the study focused on undergraduate students in all federal universities in Nigeria which are 39 in number comprises 27 conventional universities, 3 universities of Agriculture, 6 universities of technology and 3 special universities. However, the study was limited to universities at the northern part of Nigeria which are 20 in number and final year students at eighth semester serve as a unit of analysis. The study used northern Nigeria because the area is neglected in previous studies (Adejimola & Olufunmilayo, 2009; Ofoha, 2014; Oriarewo et al., 2013; Salami, 2013) and also for the fact that northern Nigeria constituted the largest part of the nation's population (NBS, 2014).

In addition, northern Nigeria serves as center of trades to other African countries due to its strategic location and that offers entrepreneurial opportunities to potential entrepreneurs (SMEDAN, 2013). Furthermore, the study was limited to eighth semester final year students in the subject areas of Business, Agriculture, Home management, Technology and Engineering. These subject areas are offered by all universities in the sample and each category of students are expected that they might consider entrepreneurial career within their specialised fields (Abdulai, 2015; Jiang & Park, 2012; Mc Stay, 2008; Olakitan, 2014; Sharma & Madan, 2014).

1.7 Definition of terms

The definitions of the terms used in this study were adapted from the previous studies as presented as follows:

1. Entrepreneurial career option (ECO) is a conscious and precise decision made for preference of entrepreneurship as career (Moriano, Gorgievski, Laguna, Stephan & Zarafshani, 2012).
2. Entrepreneurship education (EE) is seen as a process of providing individuals with the ability to recognize business opportunities and the knowledge, skills and attitudes to exploit the opportunities (Jones and English, 2004).
3. Entrepreneurial skills refer to individual's ability to develop a concept and a business plan, perform environmental scanning and opportunity recognition; and networking (Chen et al., 2009; Clark, 2008).
4. Entrepreneurial Knowledge is describes the ability to recognize or create an opportunity and take action aimed at realizing the innovative knowledge practice or product (Weber et al., 2009).
5. Entrepreneurial self-efficacy (ESE) is defined as the students' confidence in successfully performing certain tasks such as identifying new business opportunities, creating new products, thinking creatively, and development and commercialization of new ideas (Chen et al., 1998).
6. Perceived desirability (PDE) is seen as the degree to which starting a new business is perceived as a desirable career option (Dodd, Komselis & Hassid, 2009).
7. Supportive Environment (SEN) refers to a combination of factors in the business environment that play a role in the development or nurturing of entrepreneurial activities and entrepreneurial career option (Parnell, Crandall & Menefee, 1995).

1.8 Organization of the Thesis

This thesis was organized and presented in five sequent chapters. Chapter one introduced the general background of the study. The chapter presented the introduction of the study, problem statement, research questions, research objectives, significance of the study as well as the scope covered by the study.

Chapter two presented related literature on the concept of entrepreneurship, entrepreneurship education, and entrepreneurship as career option. The chapter reviewed literature in relation to the variables under the study. More specifically, existing literatures related to entrepreneurship education, entrepreneurship as career option, perceived desirability for self-employment, entrepreneurial self-efficacy, and supportive environment were discussed. It also examined the relationship between the variables under the study in general context, hypotheses development and underpinning theory were also discussed.

The chapter three discussed the research methodology of the study. This includes the research design, population of the study, sample and sampling technique, unit of analysis, operationalization and measures of variables, method of data collection, control of measurement error, validity and reliability of the instrument as well as the results of the pilot study. The chapter also discussed the method for data analysis which includes descriptive analysis, hypotheses testing and other ethical considerations.

In addition, chapter four of this thesis presented the results from data collection process; and survey responses were discussed as well as the issue of non-response

bias. Furthermore, the chapter discussed on the data screening process where missing values and outliers were detected and treated as such, and assumptions of multiple regression analysis to ensure compliance with linearity, multicollinearity and homoscedasticity were presented and discussed. The chapter also presented the descriptive analysis of the respondents for the study, results and the major findings of the study, test of the hypotheses and discussion of the findings.

Finally, chapter five provided summary, discussion, conclusion and recommendations of the study. Also in this chapter, implications, limitations of the study as well as direction for future research were presented.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter reviewed related literature on entrepreneurial career and also established the linkages among the constructs under the study. The constructs involved in the study include EE, ESE, PDE, SEN and ECO; were reviewed and discussed. In addition, all the related concepts and definitions of the constructs were reviewed and discussed. Hence, all the possible relationships between the variables were reviewed and discussed. Furthermore, the theoretical framework was presented as well as the underpinning theories. The summary of some past studies reviewed was presented in table 2.1 of this chapter.

2.2 Entrepreneurial Career

Entrepreneurial career has been recognized as an integral part for the economic growth and development of any nation (Carland & Carland, 2010; Henry, Hill & Leitch, 2005; Matlay, 2009). It is an essential element for national development, through the economic growth across the world absolutely impacted by the emergence entrepreneurial activities (Fayolle, Benoit & Narjisse, 2006; Hattab, 2014). However, the word entrepreneurship means different things to different writers (Deamer & Earle 2004; Dennis, 2007; Hills, 1988; Nwachukwu, 2005; Sexton & Bowman, 1984; William, Robert & Carl, 2007). Therefore, there is no general consensus on the meaning and definition for the concept of entrepreneurship. As an academic

discipline, the term '*entrepreneurship*' was coined by France economist Richard Cantillon (Cantillon, 1755). Literally the term means '*to undertake*' or '*go between*' denoting to the situation person presumed when chasing an opportunity (Low & MacMillan, 1988). However, entrepreneurship is understood as the essential behavioral patterns that are subjected by economic, social and psychodynamic factors (Ndedi, 2013; Ndedi & Ijeoma, 2008).

Accordingly, the concept of entrepreneurship has gained considerations among academicians and policy makers due to its critical role in providing innovation, creating new employment opportunities, and leading to increased economic growth and social wealth in the economy (Altinay et al., 2012; Kitson, Martin & Tyler, 2004; Malchow-Moller et al., 2011; Van Praag & Versloot, 2007; Wong, Ho & Autio, 2005). However, it has been a long standing conceptual debate to define entrepreneurship (Henry et al., 2005; Krueger et al., 2000; Shane, 2003). The foremost known definition of Schumpeter (1949) attributed the entrepreneur as someone who causes creative destruction to the market equilibrium by introducing innovation. Timmons, Leonard and Dingee (1990) define entrepreneurial career as a process of producing something of value from basically unknown. Krueger et al. (2000) considered entrepreneurial career as a way of thinking that gives emphasis to opportunities over threats. According to Kauffman (2007) entrepreneurial career is a process involving fundamental transformation of an innovative idea to business and from a business to value creation. Grozdanic (2008) argue that entrepreneurial career is a cultural and economic phenomenon. Furthermore, some researchers described entrepreneurial career as engine for economic growth (Arend, 2013; Baron & Shane,

2007; Bosma, Wennekers & Amorós, 2012; Dennis, 2007; Ethugala, 2011; Karimi et al., 2010; Martinez, Levie, Kelley, Saemundsson & Schott, 2010).

In their studies, Karimi et al. (2010) and Bosma et al. (2012) argue that public policy makers and academics worldwide agree that entrepreneurial career plays a serious part in the improvement of the welfare of a society, and consequently influences the development of nations. Its primary function is to innovate, find new ways to organize production factors, and combine these new factors. The Global Entrepreneurship Monitor (GEM), on its most extensive study on entrepreneurial activity in the world strengthens on the significance of entrepreneurial career as the catalyst for economic growth and development of nations, thus influences job creation, innovation and welfare (Fayolle & Gailly, 2008; Machado et al., 2010). In addition, entrepreneurial career has been acknowledged as a key component through which county's competitiveness can be inspired (European Commission, 2009; Kitson et al., 2004). Besides, the benefits of entrepreneurial career in relations to wealth creation and economic growth have been established (Ahmad & Xavier, 2012; Fayolle & Gailly, 2008; Njoroge & Gathungu, 2013; Jose Luis, 2011; Van Praag & Versloot, 2007). Henceforth, the policy makers are concerned with the ways to inspire the entrepreneurial mind-set among individuals in the nation.

Subsequently, individual's choice for ECO is consider being a deliberate and conscious process (Krueger et al., 2000). In consequence, entrepreneurial career intention is considers as the best predictor of ECO (Ajzen, 1991; Davidsson, 1995; Fitzsimmons & Douglas, 2011; Linan et al., 2011; Shapero & Sokol, 1982). Furthermore, ECO can be seen as the conscious decision for involvement of a person

to start a new business and thereby become an entrepreneur (Drennan, Kennedy & Renfrow, 2005; Krueger & Carsrud, 1993; Souitaris et al., 2007). Similarly, according to Moriano et al., (2012) ECO is a conscious and precise decision made for preference of entrepreneurship as career. ECO is therefore seen as a mental process that orientates the individual's decision to become an entrepreneur (Boyd & Vozikis, 1994; Gupta & Bhawe, 2007). According to Liñán (2008), ECO depends on person's attitude, perceived control, and the perceived social pressure to become (or not) an entrepreneur. Likewise, Awang, Ibrahim and Ayub (2013) are on the view that ECO depends on individual's beliefs that performing the behavior will result in desirable outcomes.

In other case, Shook et al. (2003) proposed a classical of business start-up procedures that categorically explained ECO consists of four business start-up activities. The four steps processes of the business start-up are shown in the diagram below (Figure 2.1):

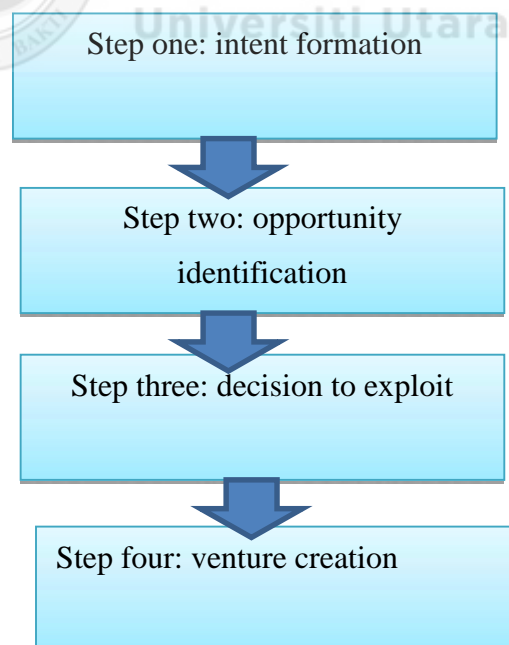


Figure 2.1

Business start-up processes

Source: Adapted from Shook et al. (2003)

Based on this business start-up activities categorization above, entrepreneurial career option involves the sequence of the first three activities in the process which includes;

- 1) intent formation; 2) opportunity identification; and 3) decision to exploit.

Furthermore, individual's decision on ECO is often to be predetermined by a variety of forces such as the dynamic career world, personal attributes, characteristics of individual career option, financial aspects, education-related factors, family background and role models (Douglas & Fitzsimmons, 2008; Liñán & Chen 2009; Liñán et al., 2011; Kroon & Meyer, 2001; Von Broembsen, Wood & Herrington, 2005; Zhang, Duysters & Cloudt, 2013). In addition, individual personal attributes such entrepreneurial self-efficacy, need for achievement, self-confidence, need for independence and autonomy, are perceived as the major determinants for entrepreneurial career (Douglas & Shepherd, 2002; Martinez et al., 2010). However, entrepreneurship educators should consider how their modules and teaching approach in entrepreneurship may affect students' attitudes and intentions towards entrepreneurial career (Byabashaija & Katono, 2011; Hussain & Norashidah, 2015; Kroon & Meyer, 2001; Morris, Webb, Fu & Singhal, 2013; Nieuwenhuizen & Groenewald, 2008; Potter, 2008).

Accordingly, the literature reviewed indicated that other studies are required to investigate the determining factors of students' entrepreneurial career choice (Karimi et al., 2010; Souitaris et al., 2007). Carsrud and Brännback (2011) suggested that entrepreneurial drives are not the identical all individuals as such study on the determinants of entrepreneurial career option are often to be crucial area of research

and that more studies are required. It was abandoned area in the past (Carsrud et al., 2009; Edelman et al., 2010), most scholars assumed it was enough in defining an entrepreneurial career by recognizing the unique personality traits (Carsrud & Brännback, 2011).

2.3 Entrepreneurship Education

EE is a new field in the academic circles nevertheless has attained an increasing recognition since it contributes toward the formation of entrepreneurial culture, attitude, skills and competencies among learners (Gorman, Hanlon & King, 1997; Hattab, 2014; Josien & Sybrowsky, 2013; Katz, 2008; Keogh & Gallaway, 2004; Kuratko, 2005; Ronstadt, 1987). Consequently, significant academic efforts have been intensified on EE in recent years helping the field to progress and to gain momentum (Gibb, 2011; Giacomini, Goksel & Aydintan, 2011; Janssen, Pruett, Shinnar, Llopis & Toney, 2011; Jones, 2010; Matlay, 2010; Nabi, Holden & Walmsley, 2006; Volkmann, Wilson, Mariotti, Rabuzzi, Vyakarnam & Sepulveda, 2009).

Accordingly, Neck and Greene (2011) and Peterman and Kennedy (2003) view EE as sequence of activities which targets to empower person to espouse and improve skills, knowledge, values and indulgent that allow a wide variety of problems to be defined, analysed and resolved. EE promotes entrepreneurial intentions and stimulates entrepreneurial skills and awareness, which can be leveraged to discourse numerous subjective norms and resource barricades to entrepreneurial activities (Davey et al., 2011; Jones et al., 2011; Packham et al., 2010; Verheul et al., 2001). Whilst, according to Chang and Rieple (2013) EE aims to improve students' mind-sets, behaviors, skills and capabilities, thereby creates future graduate entrepreneurs. The

program was developed as the result of the belief that entrepreneurial career can be taught (Fiet, 2000; Henry, Hill & Leitch, 2005), rather than been destined by genes, as some scholars advocated (Baumol, 1983; Katz, 1981; Kuratko, 2005).

In fact, there are substantial evidences supporting the positive link between EE and new venture creation (Gorman et al., 1997; Martin Cruz, Rodriguez Escudero, barahona & Leita, 2009; Peterman & Kennedy, 2003; Pittaway & Cope, 2007; Seet & Seet, 2006). For instant, Pittaway and Cope (2007) reported that EE had a positive influence on students' entrepreneurial inclination. But they found more uncertain on whether EE has an effect on the actual entrepreneurial behavior which turn into entrepreneurial career as an alternative career option. In a similar study, Lindholm, Dahlstrand and Berggren (2010) reported that EE influenced the students' entrepreneurial behavior and supported new business start-up. In addition, Packham et al. (2010) found that EE significantly affects individuals' entrepreneurial career decision.

Several studies acknowledged that entrepreneurial career can be taught and be encourage by the provision of the appropriate environment (Chang & Rieple, 2013; Gibb, 2005; Kuratko, 2005) and thus EE plays an vital role in the development of individual's entrepreneurial capability (Hannon, 2005; Lewrick, Omar, Raeside & Sailer, 2010; Matlay, 2009; O'Connor, 2012). Moreover, Gibb (2005) advocates that EE has three key objects into nation's educational system: to cultivate a wide entrepreneurial culture among the learners, inculcate the entrepreneurial mind-set, as well as to train on how to starts and operates an enterprise effectively. EE was introduced to enhance the students' ability to identify business opportunities around

them which can possibly make them self-employed and eventually self-reliance, whilst at the same time enhances their employability skills (Draycott & Rae, 2011; Matlay, 2011). In addition, Lourenc,o and Jayawarna (2011) recognize the necessity of HEIs promote entrepreneurial career and produce graduates with entrepreneurial mind-set through EE.

Accordingly, previous studies highpoint the importance of EE for enhancing entrepreneurial career among graduates (Draycott & Rae, 2011; Gibb, Haskins & Robertson, 2009; Lourenc,o & Jayawarna, 2011). As highlighted in recent literature, as part of EE's agenda is the development of an entrepreneurial mind-set and enterprising skills among university graduates and thereby, enhance their employability and increases their potentialities of being future entrepreneurs (Gibb, 2010; Gibb et al., 2009; Herrmann, Hannon, Cox & Ternouth, 2008; Volkmann et al., 2009). In general, EE at universities can inform and inspire students and therefore increase their willingness to consider entrepreneurship as a career option (Lange, Edward, Jawahar, Yong & Bygrave, 2011; Souitaris et al., 2007). Hence, EE ought to be an essential component into the core curriculum for HEIs (Draycott and Rae, 2011; Matlay, 2006; Matlay, 2011). In addition, EE is presently viewed as an important component to facilitate graduates into ECO as well as enhances graduates' entrepreneurial and the employability skills (Gibb et al., 2009; Lourenc,o, Taylor & Taylor, 2013).

Furthermore, several studies have identified EE outcomes on competencies and activities: skills, knowledge, attitudes (Chang & Rieple, 2013; Gibcus de Kok et al., 2012; Linan, 2005; Matlay, 2008), entrepreneurial careers (Block, Hoogerheide & Thurik, 2011; Douglas & Shepherd, 2002; Jane & Viveinne, 2008; Nabi & Linan,

2011; St-jean & Mathieu, 2015; Taatila 2010), entrepreneurial self-efficacy, (Austin & Nauta, 2015; Cheng et al., 2009; Zhao et al., 2005), and PDE (Fitzsimmons & Douglas, 2011; Lee, Wong, Foo & Leung, 2011; Maalu, Nzuve & Magutu 2010). In a similar study, Verheul et al. (2001) argue that EE emphasizes predominantly on the promotion of entrepreneurial career and stimulation of entrepreneurial skills and the mind-set among the learners.

In addition, there are many studies regarding the role of EE in relation to entrepreneurial career choice (Abdulai, 2015; Ahmad et al., 2014; Dickson et al., 2008; Goksel & Aydıntan, 2011; Greene & Saridakis, 2007; Hattab, 2014; Jones et al., 2008; Keat, Selvarajah & Meyer, 2011; Kunday & Çakir, 2014; Patir & Karahan, 2010). However, a number of researchers established that the effect of EE on entrepreneurial career is uncertain (Grilo & Thurik, 2008; Packham et al., 2010; Parker, 2009; Pittaway & Cope, 2007) and might do nothing to improve entrepreneurial skills, knowledge and inspiration (Giacomin et al., 2011; O'Connor, 2012).

Similarly, several studies recognized the position of EE in the promotion of entrepreneurial career as a potential alternative career option for university and college graduates and encourage favorable attitudes towards entrepreneurial career (Alvarez & Jung, 2003; Göksel & Aydıntan, 2011; Jones et al., 2008; Katz, 1991; Kolvereid & Moen, 1997). There relics on-going challenge on how to enlighten and convince undergraduate students regarding the viability and sustainability of entrepreneurial career through a business start-up as an alternative career option (Carayannis et al., 2003; Von Graevenitz et al., 2010). Furthermore, the bases for

entrepreneurial career choice are widely researched (Grilo & Thurik, 2008; Le, 1999; Lévesque et al., 2002; Parker, 2009; Sena et al., 2010). But policy makers are mainly concerned about the influence of EE on entrepreneurial career, since it can be prejudiced by policy measures (European Commission, 2003). Consequently, over the past decade there has been a substantial growth in entrepreneurship programs globally aimed at increasing entrepreneurial activity at all levels (Fayolle et al., 2006; Hamidi, Wennburg & Berglund, 2008; Martinez et al., 2010).

2.4 Entrepreneurial Self-efficacy

In this study, ESE has been designated using career-related behaviour theories far-seeing entrepreneurship as a career. Self-efficacy has remained as the most important stimulus on career-related behaviour in social cognitive theory (Bandura, 1986; Lent et al., 1994). ESE is attached in social cognitive theory and highpoints the significance of self-beliefs and self-thought in nurturing personal motivation and subsequently controls behaviour (Drnovsek et al., 2010; Fitzsimmons & Douglas, 2005; Segal, Borgia & Schoefid, 2005; Sequeira, Mueller & McGee, 2007). However, self-efficacy was originated from social learning theory (Bandura, 1977; Bandura, 1982), and describes as person's belief in his or her ability to succeed in a particular career. Self-efficacy as a domain is related to entrepreneurial career and termed as "entrepreneurial self-efficacy" (ESE).

Self-efficacy is seen as individual's confidence about the chances of effectively accomplishing a specific task (Bandura, 1977; Chaney et al., 2007; Kickul et al., 2009; Kreitner & Kinicki, 2007). It plays an important part in career-related task such as entrepreneurial process by prompting the individual's choice, determination, and

perseverance (Bandura 1997; Chaney et al., 2007). Self-efficacy is concerned with individual's decision on what to be done with the skills been endowed on the individual, not just with the skills individual has experienced (Kickul, Gundry, Barbosa & Whitcanack, 2009). The greater the individual's self-efficacy, the more confident the person has about success in a particular task domain (Prussia, Anderson & Manz, 1998). However, self-efficacy is generally recognized as a basic concept in social learning theory (Bandura, 1977), with a standpoint which adopts that actions, intuitions, and the environment constantly effect each other in the formation of individuals' attitude toward a particular career (Bandura, 1977; Bandura, 1986).

Several studies have established ESE to be a strong driver of entrepreneurial behaviour (Baum & Locke, 2004; Cromie, 2000; Drnovsek et al., 2010; Markman, Balkin & Baron, 2002; Nwankwo et al., 2012) and anticipated to effect individual choices, goals, effort, emotional responses, ability to cope, and perseverance (Carr & Sequeira, 2007; Gist, Stevens & Bavetta, 1991; Zhao et al., 2005). Similarly, Campo (2011) defined ESE as the degree at which individual is certain of that he or she is can to effectively start a new business venture. Whist, Segal et al. (2005) emphasized that individual with high ESE has the higher propensity to become an entrepreneur later in life.

Subsequently, ESE involved a consideration of the responsibilities that relate to the initiation and start-up of new ventures, which is involved entrepreneurial skills (Brice & Spencer, 2007). However, Chen et al. (1998) asserted that ESE affects career related activities and accordingly persuades entrepreneurial career decisions. Then, ESE is regarded as behavioural pattern that can transforms person's belief in his or

her likelihood for accomplishment the tasks requirement to efficaciously initiate and launch a new business venture (Bandura, 1986; Brice & Spencer, 2007; Nabi et al., 2010; Olakitan, 2014; Rae & Woodier-Harris, 2013; Solesvik, 2007). More precisely, ESE is seen as the level of individual's believes that he or she can successfully starts a new business venture.

In this study, ESE appears to be a key antecedent of entrepreneurial career preference (Barbosa et al., 2007; Linan, Rodriguez-Cohard & Rueda-Cantuche, 2005; Mushtaq et al., 2011; Pruett, Shinnar, Toney, Llopis & Fox, 2009; Rae & Woodier-Harris, 2013; Smith & Beasley, 2011; Souitaris et al., 2007; Zhao et al, 2005). Accordingly, McGee et al. (2009) defined ESE as concept that measures individual's confidence to effectively take-off a business venture. In several empirical studies were conducted in relation to ESE and entrepreneurial career and reported a positive association among the variables (Chen et al., 1998; Douglas & Shepherd, 2002; Krueger et al., 2000). Higher self-efficacy is connected to entrepreneurial career and new venture creation (Frazier & Niehm, 2006; Krueger & Brazeal, 1994; Segal, Borgia & schoenfeld, 2002). However, individuals with high ESE ought to have higher levels of confidence that they can effectively launch and run their own businesses.

According to Drnoviaek et al. (2010) ESE can best measure as a multi-dimensional concept originated from individual's goals and beliefs. There are two different dimensions of ESE which play a significant part during the process of a new business venturing. However, starting a new business venture involves interaction between the individual's personality traits and environmental factors (Peterman & Kennedy, 2003; Sesen, 2013; Sesen & Pruett, 2014) involving activities such as identification of

business opportunity, development of business idea, enhancement of business idea, and finally new business launching (Korunka et al., 2003; Shook et al., 2003). Furthermore, the multi-dimensional concept of the ESE construct was empirically established in relation with entrepreneurial process by Mueller and Goic (2003), result revealed that individual's level of ESE varied at each level of the four stages of a new business venture (searching, planning, marshalling and implementing). Barbosa et al. (2007), examining the association between cognitive styles and specific types ESE. The result identified the fundamental dimensions of ESE includes -1) opportunity-identification self-efficacy, 2) association self-efficacy, 3) managerial self-efficacy and 4) tolerance self-efficacy, might have separate and unequal relationships to multiple dependent constructs, particularly entrepreneurial career intentions and nascent behavior.

However, some researchers measured ESE as unidimensional using one or two close ended questions to measure opinion for individual's confidence in entrepreneurial career (Tominc & Rebernik, 2007). In contrary, other studies argued that ESE is conceptualized as a multi-dimensional concept (Chen et al. 1998; De Noble et al. 1999; Drnovsek & Glas, 2002; Zhao et al., 2005; McGee et al., 2009). Furthermore, McGee et al., (2009) proposed the ESE dimension using a sample of nascent entrepreneurs and emphasized the importance of using multidimensional measure as ESE has been conceptualized as a multidimensional construct. In addition, ESE has been studied as a predictor of entrepreneurial career intention by many researchers and established positive relationship (Ahmad et al., 2014; Brice & Spencer, 2007; Chen & He 2011; Drnoviaek et al., 2010; Fitzsimmons & Douglas, 2005; Jiang & Park, 2012; Jose Lius, 2011; Krueger et al. 2000; Markman, Balkin & Baron, 2002;

Wilson & Kickul, 2007). However, some other studies have emphasized the importance of ESE as a mediating variable in entrepreneurial activities (Austin & Nauta, 2015; Baum, Locke & Smith, 2001; Esnard-Flavius, 2013; Izquierdo & Buelens, 2011; Mathieu & St-jean, 2015; Noel & Latham, 2006; Zhao et al., 2005). Furthermore, Bandura's social cognitive theory strongly proved the significant of self-efficacy as a mediating mechanism.

2.5 Perceived Desirability

PDE is defined by Shapero (1982) as the individual personal attraction for starting a business. According to Krueger et al. (2000), PDE is the personal attractiveness towards a particular professional career. Boyd and Vozikis (1994), PDE is seen as individual's assessment of the personal desirability of creating a new venture. As relates to entrepreneurial career, perceived desirability reflects an individual affection toward entrepreneurial venture (Giagtzis, 2013; Linan et al., 2011; Seta, 2013). Furthermore, PDE is seen as the individual personal subjective judgement for attractiveness for starting a business and it closely knit with Ajzen's personal attitude and the subjective norm constructs (Krueger et al., 2000). In addition, PDE is view as the extent to which individual finds a given behavior including entrepreneurial career attractive (Botsaris & Vamvaka, 2012). Li (2007) viewed PDE as the individual's attractiveness towards being an entrepreneur as preferred career option. According to Xavier et al. (2009) PDE refers to the extent at which individual perceived entrepreneurial career as good opportunity to be self-employed, or the level of attractiveness towards the status of entrepreneur.

In their study, Krueger and Brazeal (1994) sustains that PDE addresses two essential concepts in the Theory of Planned Behavior (Ajzen, 1991), specifically, personal attitude and perceived social norms. Similarly, the theory of entrepreneurial event (Shapero & Sokol, 1982) emphasizes that the individual's views of attractiveness and feasibility to act on opportunities influences entrepreneurial career option. Accordingly, entrepreneurial career option depends on individual's personal opinions on attractiveness of entrepreneurial career as an alternative career option (Ajzen, 1991; Giagtzi, 2013; Kuehn, 2008; Shapero & Sokol, 1982; Wang, Lu & Millington, 2011). Similarly, Liñán (2008), opinion that entrepreneurial career choice depends on individual's attitude toward entrepreneurial career, perceived control over a firm creation behavior, and the perceived societal pressure to become (or not) an entrepreneur. In other words, if entrepreneurial career is perceived as a desired career option, such perception positively influences individual's decision on entrepreneurial career choice (Guerrero, Rialp & Urbano, 2006; Segal et al., 2005). Furthermore, PDE echoed on the personal attractiveness for entrepreneurial career and very closely relates to Ajzen's attitude toward behavior and subjective norm constructs (Krueger et al., 2000). In addition, it is affected by individual's background which is involved cultural and parental influences, as well as personal entrepreneurial exposure (Giygtzi, 2013; Kuehn, 2008; Liñán, 2008).

Furthermore, Giagtzi (2013) argued that PDE can be influenced by the societal values and cultural dynamics. PDE of entrepreneurial career is an emotional attitudinal decision made by individual on whether or not to act (Mitchell et al., 2002). Krueger et al., (2000) emphasized that PDE matches to attitude toward behavior in Ajzen's TPB. According to Steel and Konig (2006), PDE reflects the attractiveness of an

outcome for engaging in entrepreneurial activities and therefore is a form of value. In other words, the higher the expected value of a particular action then the higher the perception of its desirability (Fitzsimmons & Douglas, 2011; Steel & Konig, 2006). PDE is subjected to individual's perceptions about the outcomes from accomplishing particular behavior: the possibility of success, favorable and unfavorable consequences, and rewards (Ajzen & Fishbein, 2005). In addition, individuals are predominantly influenced by role models in their social environment, comprised of family and friends, and entrepreneurial career choices are influenced by the perception that the entrepreneurial behavior is not only personally desirable but also socially desirable; the PDE of entrepreneurial career is expected to be directly affected by cultural and social factors (Gasse & Tremblay, 2011).

However, the level of attractiveness may be connected to the expected economic benefits from engagement on entrepreneurial activity (Douglas & Shepherd, 2002), and the opportunities of achieving independence, attainment specific goals and becoming wealthy (Douglas & Shepherd, 2002; Fitzsimmons & Douglas, 2011). According to Zhang, Duysters and Cloudt (2013) individuals with a higher perceived desirability for entrepreneurship are more likely to find entrepreneurial career attractive, and also more likely to have confidence in their abilities to start and manage a business (Falck, Heblich & Luedemann 2012; Krueger, 1993; Verheul, Thurik, Grilo & van der Zwan, 2012). Brijlal, (2011) emphasized that individual's perceptions about entrepreneurial career are really important and established the basis for individual's entrepreneurial career decision.

2.6 Supportive Environment

According to Alvarez and Busenitz (2001), SEN is defined as legal, social, financial and economic environment that likely promote business start-ups. Studies argue that attitude and perceived ability toward entrepreneurship are higher when individuals are to be evaluated within a SEN (Chen et al., 1998; Mauer et al., 2009). Likewise, North (1990) seen SEN as comprise the relevant factors in the institutions environment that provide procedures and norms that either restrict or facilitate individual's entrepreneurial actions. De Clercq et al. (2011) suggest that there is a common environment outside of the entrepreneur's mind which provides guidelines and standards that influence economy and its values and policies. Similarly, Shapero (1982) describes SEN to include societal support, credible and tacit information, credible role models as well as physical properties.

SEN is seen as a mixture of factors surrounding the business atmosphere that play a significant part in the promotion of entrepreneurial career and entrepreneurial activities. Empirically several studies on SEN advocate that peoples that preserve rules and regulations, make available training and counselling services to start-up entrepreneurs, increase the chances of ECO (Dana, 1990; Franke & Luthje, 2004; Valliere & Peterson, 2009). Furthermore, factors such as the accessibility for funds, presence of infrastructural facilities, and the presence of institution of higher education for training and research are also recommended as critical nurturing of new venture developments and entrepreneurial career (Kim, Aldrich & Keister, 2006; Kristiansen & Indarti, 2004; Sequeira et al., 2007).

Several studies reported that SEN in form of favorable regulatory, cognitive and normative institutions positively influence the rate of business start-ups and entrepreneurial career activities in an economy (Bruton et al., 2010; Ebner, 2006; Engle, Schlaegel & Dimitriadi, 2011; Falck et al., 2012). According to Reynolds (2011) regulatory institutions provide favorable laws and regulations for promotion of new business formation and processes as well as mechanism supportive of individuals' entrepreneurial efforts. However, Engle et al. (2011) maintain that cognitive institutions refer to the level of knowledge and information shared in society in relation to ECO and new venture creation. Manolova et al. (2008) see normative institutions as the acceptability and admiration of innovation, creativity and entrepreneurial careers in society.

In other study, Guerrero (2008) acclaimed that the individual's personal skills and the supportive regulatory environment have a positive impact on the entrepreneurial career aspirations. More specifically, administrative bureaucracies, access to finance, stigma related with failure, risk aversion and the parental's attitudes are some of the factors which influence the desirability and feasibility for entrepreneurial career (Shinnar et al. 2009). Similarly, Pittaway and Cope (2007) found that entrepreneurial career intentions can be shaped by the perceived barriers from the cultural beliefs and the SEN. Previous studies reported significant relationship between the environmental factor and entrepreneurial career intentions; environmental elements such as access to capital (Lu'thje & Franke, 2003; Ozen Kutanis, Bayraktaroglu, & Bozkurt, 2006; Schwarz et al., 2009), information on the potential business opportunity (Kristiansen & Indarti, 2004), and the social systems (Sequeira et al., 2007).

According to Kristiansen and Indarti (2004) and Kim et al. (2006) access to funds is undoubtedly one of the fundamental factors in launching a new business. Many studies have reported that substantial numbers of individuals have given up their entrepreneurial career intentions because of their failure to access funds (Marsden, 1992; Meier & Pilgrim, 1994). Kristiansen and Indarti (2004) recognized that there is a significant and positive link between the accessibility of business information and entrepreneurial career intents. Empirical evidences suggested that, when individual senses that he/she is having easy access capital and business information within his/her societal network, and then the idea for entrepreneurial career is more likely to become a reality (Sequeira et al., 2007).

2.7 Entrepreneurship Education and Entrepreneurial Career Option

A decade literature review in EE was conducted by Gorman et al. (1997) confirmed that initial evidence proposes that entrepreneurial career can be influenced through EE. However, several studies are profound to measure entrepreneurial career intentions using the students that have participated in EE program. For example, using sample of 50 students drawn before and after partaking in an EE program at a Polish university Jones et al. (2008) found that a positive association was established between EE and student's entrepreneurial career intention. Wambugu (2005) study the relationship among risks, investment and EE in Nairobi, Kenya. The study concluded that the individual's level of education affects the level of entrepreneurial activities. The study also reported low educational levels as causes for lack of business growth and entrepreneurial failure.

Accordingly, Giacomini et al. (2011) conducted a comparative study of EE among nations asserted whether the impact of the program would be the same in every country. The results revealed that entrepreneurial career intentions of students differed across countries. It also reported that social values should be given due considerations in the process of developing EE programs. Similarly, Packham et al. (2010) conducted a comparative study to examine the relationship between EE and the students' entrepreneurial attitude among German, French and Polish students. Remarkably, the study reported that EE has a positive association with students' entrepreneurial career intentions in France and Poland then a negative influence on German male students.

Similarly, Engle et al. (2010) conducted a study of university students' entrepreneurial intents in twelve countries and the result revealed that Ajzen's (1991) the theory of planned behavior (TPB) could be used effectively to predict the students' entrepreneurial intents in each of these nations. However, Engle et al. (2010) suggest that the significant contributing elements of the TPB model could be differed across countries. In a similar comparative study, Pruett et al. (2009) conducted study on attitude towards EE in three countries—even though students normally share almost related opinions about incentives and barriers to entrepreneurial career, but there are significant differences among the countries in relations EE on entrepreneurial intents. However, Souitaris et al. (2007) conducted study to examine the association among EE, entrepreneurial attitudes and entrepreneurial career intentions among university students. A sample 250 science and engineering students was drawn from two universities in the France and UK. The results show that the students in experimental group are having higher entrepreneurial career intention after

participation in an EE program, while the entrepreneurial career intention for the control group stayed unaffected.

A study on the impact higher education and graduate career choose in the new era, Rae et al. (2011) examined the impact of higher education on graduates' attitudes toward career choice and argue the need for all students to develop an enterprising mind-set, skills and experience as part of their program of study. Rae et al. (2011) emphasize on the importance of developing creative thinking, confidence, social and communication skills. The results reported that participation in taught EE has a positive effect on attitudes towards entrepreneurial career. Rae et al. (2011) further suggest the study will inform academia and the entrepreneurship education community and assist the construction of effective programs of study. In contrary, Von Graevenitz et al. (2010) investigate the association between EE and entrepreneurship career intentions among university students in Germany. A sample of 196 students was conducted using pre and post survey data at the end of EE program. The study also reported a negative association between EE and entrepreneurial career intentions.

In another study, Sanchez (2011) examined the association between training for entrepreneurial competencies and entrepreneurial intention. The study used a large sample of 864 Spanish university students to establish relationship between EE and students' entrepreneurial career intentions using pre and post-test assessment. The results showed that participation in a free-elective EE program has significant effect on the students' entrepreneurial career intentions. In addition, the study revealed that participated students scored higher than the non-participants in relations to pro-

activeness, risk-taking, and self-efficacy. Similarly, Abdulai (2015) investigates the influence of EE in relation to individual's cognitive process of entrepreneurial career intention. A total sample of 429 respondents was surveyed using pre-test and post test variances between the control and the experiment group in a quasi-experimental study. The results reported that participation in EE significantly affects the students' perception for self-employment and hence encourages entrepreneurial career intentions.

Similarly, Jones et al. (2011) explored the entrepreneurial attitudes and motivations of Polish students towards an entrepreneurship education. The sample was drawn within the students of cohorts of Business and Finance undergraduate programs on a random sample basis, and semi-structured data collection method was used to explore the entrepreneurial attitudes, motivations and reflections on best practice. The findings of the study testified that EE can positively strengthen participants' attitudes toward an entrepreneurial career choice inside an emerging nation such as Poland. In the same vein, Molaei et al. (2014) conducted a study to investigate the relationship between EE, entrepreneurial idea and entrepreneurial career intention. The data were obtained from undergraduate students of Behavioral Sciences and Engineering at University of Teheran and structural equation modelling (SEM) was used to analyze the data. The findings revealed that students' entrepreneurial career intention is highly influenced by the volume of their entrepreneurial ideas. In addition, the findings of the study emphasized that entrepreneurial ideas volume is the most important factor for potential entrepreneurs.

In contrary, Bernhofer and Li (2014) conducted a study to assess Chinese students' entrepreneurial career choice intentions, the dynamics in career choice intentions, and influences of career motives, university environment and perceived barriers. The research sample was obtained from the dataset of the China global university entrepreneurial spirits students' survey and explorative data analysis was used to analyze the data. The findings revealed that the proportion of students who claimed entrepreneurship as a sure career choice across samples is low. However, the most favorite career choice for Chinese students' precise after leaving university is working in a large company. Additionally, Bernhofer and Li (2014) found that the impact of family business background students' career choice intention appears to be ambiguous and inconclusive.

Accordingly, Beynon et al. (2014) conducted a study to investigate the association between EE, entrepreneurial motivations and entrepreneurial aspirations. The sample of study was made of 720 students drawn from enrolment data for EE program and Classification and Ranking Belief Simplex (CaRBS) was used to analyze the data. The results suggest that interest in the entrepreneurship subject matter does not contribute to a self-employment career choice as an initial student motivator towards program choice. Hence, there is negative association between EE and entrepreneurial career choice. In contrary, Jones et al. (2008) examined student attitudes towards EE in Poland. They suggested that females were more likely to enter self-employment and pursue an entrepreneurial career. Jones et al. (2008) also noted that female students needed to be informed regarding the accessibility of an entrepreneurial career. By contrast, male students were more interested in the mechanics of business planning. Both gender-specific groups recognized the value of the course in

enhancing their entrepreneurial knowledge and future entrepreneurial intent. Looking at the above mentioned arguments, it seems that there are inconsistencies among the findings on the association between EE and ECO. Hence, the study proposes the following hypotheses:

H₁: There is significant relationship between entrepreneurship education and entrepreneurial career option.

More specifically;

H_{1a}: There is significant relationship between entrepreneurial knowledge and entrepreneurial career option.

H_{1b}: There is significant relationship between entrepreneurial skills and entrepreneurial career option.

2.8 Entrepreneurship Education and Entrepreneurial Self-efficacy

Several studies reported that EE significantly related ESE and entrepreneurial career intent (Dickson, Solomon & Weaver 2008; Muofhe & Du Toit 2011; Zhao, Hills & Seibert 2005). Blackford, Seborá and Whitehill (2008) reported that post-graduation business start-up by students who have undertaken EE option is directly related to ESE. Accordingly, Forbes (2005) examined the impact of EE on students' perceived ESE. The results reported that EE significantly associated with perceived ESE. The study also found that ESE influences individual's decision for new business start-up and entrepreneurial career choice. Other researchers reported that self-confidence is associated with entrepreneurial career tasks and is strongly related to entrepreneurial career behavior (Sequeira et al. 2007; McGee et al. 2009).

According to a study conducted by Segal, Schoenfeld and Borgia (2007) which examined the relationship between EE and the ESE. The study reported that EE has a significant affiliation with the key elements of self-efficacy. The study also reported that EE has a significant influence on ESE by impacting on its key elements. It suggests that certain measures that raise entrepreneurial self-efficacy are vital and need to be integrated into the teaching of entrepreneurship education. Similarly, Pihie and Akmaliah (2009) conducted a study to examine the relationship between EE program on college students' views on ESE and entrepreneurial career intention. Data were gathered using survey forms randomly distributed among 1,554 university students were enrolled in the program. The study shown that EE a significant relationship exist between entrepreneurial career intention and ESE.

In another study, Kilenthong, Hills and Monllor (2008) examined effect of EE program on individuals' entrepreneurial self-confidence. The results of the study reported that entrepreneurship education program has significant benefit to the participants and enhances the entrepreneurial self-confidence of the participants. Similarly, Kilenthong et al. (2008) found that EE has a positive effect on students' ESE. Similarly, Kickul, Wilson, Marlino and Barbosa (2008) conducted a study to investigate direct and indirect associations among work and leadership experience, entrepreneurial role model, self-efficacy, and entrepreneurial career intents among teens. The sample of study was drawn from over 5,000 middle school students participated in EE modules. The results of the study reported that self-efficacy appeared to have a stronger influence on entrepreneurial career intents for the girl participants than the boys.

Similarly, Shinnar, Hsu and Powel (2014) examined the relationship among EE, ESE, gender and entrepreneurial career intentions. The study adapted a quasi-experimental survey and the data were collected at the beginning and the end of a semester-long, introductory EE program. The results showed that EE has significant effect on ESE for both gender, however, the effect was statistically significant only for the male students. In addition, findings revealed a positive correlation between ESE and entrepreneurial career intentions. Additionally, Setiawan (2014) examined the association between EE and ESE among Indonesian university students. A sample of 199 undergraduate students that participated in an entrepreneurship education course was in study. The results of the study showed that there is a positive and significant relation between EE and ESE. The study further found that overall the level of ESE was high among the students participated in the programme.

In another study, Abaho, Olomi and Urassa (2015) examined the relationship between various entrepreneurship teaching methods and ESE among Ugandan university graduates. A final year students drawn from selected universities in Uganda as the sample of study. The results revealed that a significant positive association between ESE and lecturers' business experience. However, the study reported that there was no statistical significance in the association between ESE and some teaching methods. However, Ali (2013) conducted a study to examine the relationship between EE, entrepreneurial attitude, social norms, ESE and entrepreneurial intention. The study used the data reported by GEM to empirically test responses from 601 individuals using binary logistics regression. The study reported significant relationship between EE and ESE. Furthermore, ESE significantly predicts entrepreneurial career intention.

In addition, Eric, Miruna & Olivier (2012) conducted study using same-gender fictional role models to examine the association between ESE and entrepreneurial career intention. An experimental research design was used to conduct the study using a sample of university students in French and SEM technique was used to analyze the data. The study reported entrepreneurship education through effective role models strengthen role model enhances self-efficacy and entrepreneurial intention. Dempsey and Jennings (2014) investigated the relationship between enactive mastery, vicarious experience, physiological arousal and entrepreneurial self-efficacy among young women and men. The study adopted a two-stage design, which included collecting data from university students via an online survey followed by a quasi-experiment involving an opportunity evaluation task. The results reported that the significantly lower entrepreneurial self-efficacy of the young women in the sample was attributable to their lower level of prior entrepreneurial experience.

Additionally, Fayolle and Gailly (2015) conducted a study to survey the initial state and persistence of the effect of EE programs on the participants' attitudes and intention toward entrepreneurial career. An experimental study was conducted using standardized "compact" program rather than programs merging multiple teaching components whose influences cannot be separated. The results showed that a positive significant relationship exist between EE and ESE. The results highlight significant counter effects of the EE on students who had previous entrepreneurial exposure. However, Díaz-García, Sáez-Martínez and Jiménez-Moreno (2015) conducted a longitudinal study to investigate the effects of participation in the EE program on the participants' ESE and entrepreneurial career intention. The study reported that participants in the program had higher levels of ESE at the end of the program than

the non-participants, and that these levels had been retained over time. Furthermore, the entrepreneurial intentions were higher than the control group and improved over time with respect to creativity. Based on the above arguments the study seeks to propose the following hypothesis:

H₂: There is significant relationship between entrepreneurship education and entrepreneurial self-efficacy.

More specifically;

H_{2a}: There is significant relationship between entrepreneurial knowledge and entrepreneurial self-efficacy.

H_{2b}: There is significant relationship between entrepreneurial skills and entrepreneurial self-efficacy.

2.9 Entrepreneurial Self-efficacy and Entrepreneurial Career Option

Many studies attempted to establish link between ESE and ECO. Jose Lius (2011) examined the association between ESE and the development of entrepreneurial career preference and the moderating role of gender among students in Barranquilla-Colombia. A sample of 61 undergraduate students was surveyed. The study used hierarchical multiple regression to test for the moderating role of gender. The findings reported no sign to consider gender as an intermediary in the association between ESE and entrepreneurial career preference. Similarly, Solesvik (2007) conducted a study in relation to ESE and entrepreneurial career intentions among Ukrainian students. The study conducted using TPB, self-efficacy theory and risk taking study. The study reported that people are driven to entrepreneurial career by their level of ESE, subjective norms and perceived behavioral control. Furthermore, study also reported

that a higher level of entrepreneurial career intentions among students with entrepreneurial parents.

Accordingly, in a comparative study Jiang and Park (2012) conducted a comparative study in relation to the entrepreneurial career preference among university students from China and Korea using self-efficacy as moderator. A sample of 700 university students was used to carry out the survey and a total of 579 responses were obtained signifying 82.7% response rate. The male represented for 53.4% of the respondents, whereas female, 46.6%. A total of 62.3% majored in social science; 37.4%, in science; and over 50% had at least three years of education at university level. The results indicated that entrepreneurial career preference is positively linked to self-efficacy. However, it is added that some personal features and intelligence may influences individual's decision to pursue entrepreneurial career option (Jiang & Tang, 2009; Littunen, 2000).

In another study, Sesen (2013) empirically tested an inclusive model on the entrepreneurial career intentions among the university students by comparing the personality traits and environmental dynamics' influences. A questionnaire survey was used to sample of students from different faculty within the two leaning universities in Turkey and data were analyzed using regression analysis. The study reported that personality traits such as ESE and locus of control have significantly effects on entrepreneurial career intentions. Additionally, the study also reported that environmental dynamics has significant relationship with students' entrepreneurial intentions

Furthermore, Kunday and Çakir (2014) conducted a study to examine the association between self-esteem and entrepreneurial career intention, and moderating role of EE and family tradition on the relationship. The sample of the study consists of 209 undergraduate and graduate students of business administration from three Universities in Istanbul, Turkey. The findings from this study revealed a significant relationship between self-esteem and entrepreneurial career intention. The study also showed that EE and family tradition significantly moderate the association between self-esteem and entrepreneurial career intentions. Izquierdo and Buelens (2011) conducted a study on the association between ESE, entrepreneurial capacity and ECO. The results showed that positive associations exist among ESE, entrepreneurial capacity and preference for entrepreneurial career option.

In addition, Nabi and Liñán (2013) studied the relationship among the risk perception, ESE and economic environment in determining the entrepreneurial career intents. The sample was drawn from university business students from Spain and Great Britain and SEM was used to examine the associations among the variables. The results of the study reported that entrepreneurial risk perception is strongly associated with entrepreneurial career motivation. However, the findings also reported that ESE is strongly associated with entrepreneurial career intention. In contrary, other studies have recently recommended that entrepreneurial career do not certainly associated with higher risk propensity (Monsen & Urbig, 2009; Simon et al., 2000). Rather, it was empirically suggested that differences in risk perception hypothesis and emphases that many entrepreneurs appear to take in lower levels of risk in relation with new venture creation (Barbosa et al., 2007; Monsen & Urbig, 2009).

Similarly, Ahmad et al. (2014) explored entrepreneurial career intentions among Malaysians Using the social cognitive method based on GEM data. The data from GEM Malaysia National team was for the study and the theoretical hypotheses were tested using binary logistic regressions. The study reported positive link between ESE and entrepreneurial career intentions. This supported a study conducted by Shane, Locke and Collins (2003) which argued that ESE was probably the “single best predictor in the entire array of variables” to study entrepreneurial career intentions. Moreover, in number of studies there is strong evidence that ESE is a good ploy for entrepreneurial career choice (Drnoviaek et al., 2010). However, the results reported that individuals’ perceptions of entrepreneurial opportunities and entrepreneurial career intents were not entirely conclusive.

In another study, Akmaliah and Hisyamuddin (2009) investigated link between ESE and students’ attitude towards ECO among Malaysian secondary school. The study reported a negative association between ESE and entrepreneurial career intent. However, Akmaliah and Hisyamuddin established that subjective norm and civic support has a profound influence towards entrepreneurial career option. The study also shown that individual with a higher entrepreneurial self-efficacy will have a higher entrepreneurial career preference. In contrary, Walter, Parboteeah and Walter (2013) identified a positive significant association between risk-taking propensity, entrepreneurial self-efficacy and student entrepreneurial career intentions for male students.

Similarly, Ariff, Bidin, Sharif and Ahmad (2010) conducted a study to examine the link between attitudes, subjective norms and perceived behavioral controls on

entrepreneurial career preference among Malay students. The result shown that, attitude, subjective norms, and perceived behavioral control influenced the students' entrepreneurial career choice. However, among the three variables, perceived behavioral control (entrepreneurial self-efficacy) appeared to be the strongest element that influenced entrepreneurial career preference. Similarly, Krueger, Liñán and Nabi (2013) emphasized on the critical role of past experiences in forming entrepreneurial beliefs and cognitive structures towards entrepreneurial career option.

Comparatively, Ahmed et al. (2010) investigated the relationship between individual traits, demographic features, EE and entrepreneurial career intentions among university students. A sample of 276 university students was used to gather the data for the study and Pearson's correlation coefficient was used to analysis the data. Results show that prior experience inclines students to entrepreneurial career option. Similarly, De Pillis and Reardon (2007) explored the relationship among culture, ESE and entrepreneurial career formation a cross different cultural background. The study reported a significant difference on relationship between ESE and entrepreneurial career formation among different cultures. In particular, the study revealed that ESE was significantly associated with entrepreneurial career preference across different cultures.

In addition, Singh et al. (2010) examined the perceptions for entrepreneurial career among mid-career executives in china to ascertain the important antecedent of the transition to self-employment. The sample was drawn from mid-career Chinese executives and hierarchical regression was used to analyze the data. The result of the study showed positive association between entrepreneurial career, a self-employed

relative and openness to experience. Furthermore, in a more superior analysis, Singh et al. (2010) similarly showed that variation of individual characteristics is related to perceptions of entrepreneurial career. They argue that public strategy creates atmosphere of inter-generational entrepreneurial activity.

In another empirical study conducted by Ucbasaran, Westhead, Wright and Flores (2010), the study established that entrepreneurial knowledge has diverging influences on confidence, such that the experiences with business failure were related with lower confidence as opposed to experiences with business success. Accordingly, lack of entrepreneurial experience can cause a number of challenges in respect to entrepreneurship as career (Fitzsimmons & Douglas, 2005). Several authors have shown that entrepreneurial experiences are crucial in comprehending the entrepreneurial process (Lee et al., 2011; Liñán et al., 2011; Pendiuc & Lis, 2013). In contrary, Mc Stay (2008) suggested that students with 'low' prior entrepreneurial career experience had a greater entrepreneurial career intention than those students with 'high' prior entrepreneurial experience. Similarly, Nishantha (2009) reported a relatively low association between prior entrepreneurial career experience and entrepreneurial career intents.

In Mexico, Torres and Watson (2013) conducted a study on the association between ESE, entrepreneurial career preference and performance among Mexican small businesses. The study reported that high performance is highly associated with the levels of the owner/ manager entrepreneurial self-efficacy. In contrary, Hmieleski and Baron (2008) examined the association between ESE and firm performance. The study reported that ESE is considered to be a strong forecaster of firm performance.

The results also suggested that high ESE is not always favourable for entrepreneurs and may, in fact, exercise negative effects under some circumstances.

In contrary, Sesen and Pruett (2014) conducted study to investigate the relationship between ESE and ECO using a sample drawn across two different countries, Turkey and the United States. A survey questionnaire was used for data collection and ANOVA was used for data analysis. The findings reported significant differences between American and Turkish students on their entrepreneurial desires and virtually one-third of students in both countries aspire for entrepreneurial career. However, the findings also reported that employed in public administration is still a main choice in Turkey.

In another study, Sharma and Madan (2014) examined the relationship among intelligence, prior entrepreneurial experience, education and ECO. The sample of 530 was drawn from the final year university students. Data were analyzed via cross tabulation and chi square analysis and the results revealed that prior entrepreneurial experience has a negative relationship with entrepreneurial career preference. However, no link was established between work experience and entrepreneurial career preference. However, according to Lejarraga and Pindard-Lejarraga (2013) entrepreneurial experience has been found to appraise entrepreneurial confidence of high chances of entrepreneurial success. In addition, individuals with a higher perceive self-efficacy incline to be more penetrative to entrepreneurial opportunities (Singh et al., 2010).

Similarly, Drnovsek et al. (2010) explored the role of ESE during the stages of entrepreneurial career process. The findings revealed that ESE is perceived as a multidimensional concept made up of goal and control beliefs, and it play important role during stages in the process of new business start-up. Njoroge and Gathungu (2013) examined the relationship among EE, training, ESE and development of entrepreneurial career. The study adapted exploratory research design using structured questionnaire and the sample was drawn from officially listed SMEs in Githunguri district using simple random selection technique and the respondents were the owners/managers of enterprises. The findings reported that most SMEs fail due to lack of entrepreneurial skills and competency which can be acquired through EE and training.

In Nigeria, Olakitan (2014) investigate the relationship between achievement motivation and self- efficacy on entrepreneurial career preference. The study employed survey research design and a sample of 228 students was drawn from a university in Oyo state Nigeria to serve as respondents of the study. The results reported that there is a significant link between self- efficacy and entrepreneurial career preference. In contrary, Pihie (2009) conducted a study on the association between ESE and entrepreneurial career intention among university students in Malaysia. The findings indicated students recorded moderate scores on attitudes towards entrepreneurial career and perceived behavioral control. Furthermore, students with positive entrepreneurial desire recorded higher ESE and entrepreneurial career intention. Based on the above arguments, the study seeks to propose the following hypothesis:

H₃: There is significant relationship between entrepreneurial self-efficacy and entrepreneurial career option.

2.10 Entrepreneurial Self-efficacy as Mediator

In regards to the studies on the mediating effect of ESE, many studies established the significant role of entrepreneurial self-efficacy in mediating relationship among different variables. Some of these studies on mediating role of ESE include Shane et al. (2003), Zhao et al. (2005) and Rauch and Frese (2007). Shane et al. (2003) investigated the mediating role of ESE on entrepreneurial motivational factors. The results of the study provided evidence that ESE mediates the link between personal characteristics and entrepreneurial orientation. Similarly, in the study of Zhao et al. (2005), ESE was reported to mediate the association between perceived learning experiences and entrepreneurial career intentions. In their study Rauch and Frese (2007) supposed Shane et al. (2003) and Zhao et al. (2005) believing that in career decision, ESE is a critical aspect for increasing the chance for entrepreneurial career choice.

In comparative study, Jung et al. (2001) examined how ESE influences entrepreneurial career intentions a cross-cultural perspective in United States and Korea. The findings of the study reported that entrepreneurial career activity is highly appraised in United States due to the individualistic culture as compare with Koreans don't display high self-efficacy which link to the collectivistic orientation. Dyer, Gregersen and Christnesen (2008) reported that ESE provides learners with chances to learn new entrepreneurial skills and competencies, which are consider imperative for ECO. However, Gong, Huang and Farh (2009) reported that learning orientation

and transformational management were positively associated to workers creativity, and these associations were mediated by workers' ESE.

Accordingly, BarNir, Watson, and Hutchins (2011) reported that ESE mediates the link between entrepreneurial exposure and entrepreneurial role models and individual's entrepreneurial career intentions. The study also found the relationship between role-model exposure and ESE was stronger for female students than male students, suggesting that entrepreneurial role models may be especially important in females' decisions to become entrepreneurs. Similarly, Chun-Mei, Chien-Hua and Hsi-Chi (2011) examined the association among ESE, entrepreneurial learning behavior and entrepreneurial career intention. A sample of 448 students was drawn from mid-schools in Taiwan. The results reported that ESE mediates the relationship between perceived entrepreneurial learning experience and entrepreneurial career intentions. Nevertheless, the study also indicated that ESE has no mediating effect on gender; hence women were reported to have lesser entrepreneurial career intentions.

In another study, Mushtaq et al. (2011) investigated the factors influences entrepreneurial career intentions among young graduates using Ajzen's intention model. The findings indicated that EE prepares young graduates for entrepreneurial career. The study further reported that entrepreneurial capability is significantly correlated with entrepreneurship career intention. Keat, Selvarajah and Meyer (2011) studied the association between EE and inclination toward entrepreneurial career. The results reported a significant relationship between university supports and ECO. Furthermore, reported that the relationship between ECO and prior employment experience is statistically significant.

Similarly in Turkish, Kumar and Uz Kurt (2010) investigated the association between of ESE, innovativeness and entrepreneurial career. The study was conducted using a sample 271 Turkish trained entrepreneurs. The results revealed a positive association between ESE and innovativeness. In addition, high scores on the individualism dimension moderate the association between self-efficacy and innovativeness positively. In the same direction, Hmieleski and Corbett (2008) investigated the mediating effect of ESE on the link between entrepreneurial behavior and new venture successes. The results reported a significant mediating effect on the link between entrepreneurial behavior and new venture successes. The study further suggested that individuals entrepreneurial self-efficacy can be improve within a stable business environment.

In Malaysia, Mohda, Kiranab, Kamaruddina, Zainuddina and Ghazali (2014) investigated the mediating effect of ESE on the association between personal values and entrepreneurial orientation. The sample of the study consists of 162 SMEs from manufacturing industry in Malaysia. The results of the study reveal that Self-efficacy mediates the association between the variables. However, it suggested that the study should consider different environment and environmental support in the relationship between the variables. Similarly, Austin and Nauta (2015) examined the relationship between entrepreneurial exposure and female students' entrepreneurial career intentions and mediating role of ESE. A sample of 105 female college students who had at least one entrepreneurial role model was drawn from Midwestern University, USA. The findings suggest that ESE mediates the association between role-model exposure and females' entrepreneurial career interests.

In another study, Nordin, Samsudin and Md. Zain (2015) examined mediation effect of ESE on the causal association between creativity, entrepreneurial orientation, innovative motivation and innovation orientation among Malaysian university students. Data were collected from undergraduate students using self-administered survey in the form of questionnaire. The empirical result showed that ESE mediated the association between creativity, entrepreneurial orientation, innovative motivation and innovation orientation. However, St-Jean and Mathieu (2015) investigate the mediating role of ESE on association between mentoring, career satisfactions and retentions of novice entrepreneurs. The used a sample of 360 Canadian novice entrepreneurs who were been reinforced by mentors. The study establishes the mediating effect of ESE on work satisfaction and retention during career development. But the study reported a negative influence on link between mentoring and entrepreneurial career intention.

On the other hand, Pihie and Bagheri (2013) investigated the critical role of ESE on the association between self-regulations and entrepreneurial career intentions using Bandura's structural path model. A sample of 722 students was considered from public and private universities in Malaysia. The findings showed a significant association between ESE and entrepreneurial career intentions. In addition, the study reported that self-regulations mediate the association between ESE and entrepreneurial career intentions. Similarly, Oyugi (2011) investigated the mediating role ESE on the association between ESE and entrepreneurial career intentions among students in Uganda. The study reported a significant association was established between EE and entrepreneurial career intentions. The findings further revealed that

ESE was found to partially mediate the association between EE and entrepreneurial career intentions.

Accordingly, Olakitan (2014) investigate the relationship between achievement motivation and self- efficacy on entrepreneurial career intentions. The study employed survey research design and a sample of 228 students was drawn from a university in Oyo state Nigeria to serve as respondents of the study. The results revealed that there is a significant association between self- efficacy and entrepreneurial career intentions. Based on the arguments above, the study seeks to propose the following hypotheses:

H₄: Entrepreneurial self-efficacy mediates the relationship between entrepreneurship education and entrepreneurial career option.

Specifically the study proposes the following sub-hypotheses:

H_{4a}: Entrepreneurial self-efficacy mediates the relationship between entrepreneurial Knowledge and entrepreneurial career option.

H_{4b}: Entrepreneurial self-efficacy mediates the relationship between entrepreneurial skills and entrepreneurial career option.

2.11 Entrepreneurship Education and Perceived Desirability

Several studies focus on relationship between EE influences individuals' PDE for entrepreneurial career. Some of these studies include; Hessels, Grilo, Thurik, and Van der Zwan (2011) investigated the link between individuals' entrepreneurial exits and entrepreneurial engagements. The findings revealed that individuals with entrepreneurial exit experience tend to be more desire for entrepreneurial engagement.

In addition, individuals with entrepreneurial exit experience are more likely to be engaged in entrepreneurial activities than the individuals lacking the entrepreneurial exit experience. Athayde (2009) conducted a study to measure entrepreneurial career potentially among the secondary school students. The used a quasi-experimental design using 109 pupils as experimental group and a control group of 140 pupils from public schools in the UK. The findings reported that experimental group that participated in a “Youth Enterprise Company Program” shown higher desirability for entrepreneurial career than the pupils in the control group.

In an experimental study, Souitaris, Zerbinati and Al-Laham (2007) investigated the relationship between EE, entrepreneurial attitudes and entrepreneurial career intentions. The study used a sample of 250 students from two universities in the UK and France that participated in an entrepreneurship program over a period of five months was used as experiment group. The students in the experiment group have greater desire for entrepreneurial career at the end of the program than at the commencement of the program, while students’ desire for entrepreneurial career in the control group remained the same. Similarly, Matlay (2008) investigated the long-term impact of EE on entrepreneurial career status among graduates in the UK. The study was a longitudinal in nature that obtained occupational status of the respondents after graduation. The findings exposed that relationship exist between EE and self-employment status of the respondents. The study also reported that ten years after graduation entrepreneurial career was the most frequent outcomes from the respondents.

In a comparative study, Sánchez (2011) investigated the impact of EE, entrepreneurial competencies and desire to create new business venture. The study used a sample of 864 Spanish university students to measure the impact of EE on the entrepreneurial career intentions among students participated in an EE program. The results indicated that students who participated in EE program showed increased students' desire for entrepreneurial career. In addition, the participated students scored higher in terms of pro-activeness, risk taking, and self-efficacy.

Similarly, Block et al. (2011) studied effect of EE on individual's entrepreneurial choice among individuals from Europe and USA. The study accounts for this indigeneity by using a contributory variables method and a dataset of more than 10,000 people from 27 European countries and the USA. The study reported a significant relationship between EE and the entrepreneurial career choice. Block et al. (2011) emphasize that the higher the level of education, the greater the likelihood for entrepreneurial career choice. Similarly, Marina et al. (2013) studied the association between EE and entrepreneurial career among university students in Ukraine. The Survey used a sample of 189 students from three universities in the Ukraine and hierarchical multiple regressions were used to analyze the data. The study reported higher intensity of entrepreneurial mind-set among the students that participated in EE program. Furthermore, Marina et al. (2013) reported that students participated in EE show higher desire for entrepreneurial career than the non-participated students. In addition, EE students were more concerned with a higher entrepreneurial mind-set and accrued more links to entrepreneurial alertness ability.

A study conducted by Rosendahl Huber, Sloof and Van Praag (2012) investigated the association between EE, entrepreneurial skills and entrepreneurial career intentions among primary school pupils. The study used an experimental design to examine the impact of a five day EE in relation to entrepreneurial skills and entrepreneurial career intentions. The study also reported that entrepreneurship education enhances positive attitudes towards entrepreneurial career during childhood development process. In same direction, Guerrero (2008) investigated the association between EE, desirability and feasibility for entrepreneurial career across different countries. The results of the study found that the relationship between EE and the favorable attitudes towards entrepreneurial career and the high status of entrepreneurs. In addition, the study suggested that a favorable attitude of the society towards entrepreneurial career motivates people to consider entrepreneurial career option and start new business venture.

In addition, Fitzsimmons and Douglas (2011) investigated the relations between desirability and feasibility in the formation of entrepreneurial career intentions. The study found EE is significantly related to both PDE and perceived feasibility. However, the study found evidence of a negative relationship among PDE and perceived feasibility in their entrepreneurial career intentions. Coduras, Urbano, Rojas and Martínez (2008) investigated the link between perceived university support, desirability and entrepreneurial career intentions. The study used a large Spanish dataset from the GEM to analyze the relationships. The findings revealed a positive link between perceived university support, desirability and entrepreneurial career intentions. Similarly, Lee, Chang and Lim (2005) conducted a comparative for the impact of EE on students' desire for entrepreneurial career. The study was conducted

using a sample of 379 university students from South Korea and the US. The findings revealed that EE has a significant and positive relationship with entrepreneurial career. The study further reported that students' participation in EE increases their desire for entrepreneurial career.

Accordingly, Oberschachtsiek (2012) conducted a study to distinguish between entrepreneurs who are inspired by self-fulfillment or possible increases in income rather than the vulnerability of unemployment. The study was conducted using the German data from GEM data base. The results indicated that entrepreneurs with pull incentives have a longer expected duration in self-employment than those with push incentives. In addition, people with less desire for entrepreneurial career are likely to switch to wage employment. Similarly, Caliendo and Kritikos (2009) investigated the relationship between desire, opportunity and necessity motivational factor for entrepreneurial career. The results indicated that relationship exist between motivational factors and entrepreneurial career. Hence, perceived desire and opportunity identification are crucial when individuals decided to start a business.

In another study, Fenton and Barry (2014) conducted a study to examine graduate entrepreneurs' perspectives of EE in higher educational institutions in their formation as entrepreneurs amongst graduate entrepreneurs in the South East of Ireland. A qualitative research approach was adopted using semi-structured interviews and the sample was drawn from graduate entrepreneurs that participant in bespoke graduate enterprise program and graduate entrepreneurs who did not participate in the program. The findings revealed that the graduate entrepreneurs did not believe that HEIs were entrepreneurial because their focus remains on preparing students for employment

rather than self-employment, and the lack of diffusion of entrepreneurship within the curriculum. However, the findings display that graduate entrepreneurs alleged that EE develops their entrepreneurial career ability. Atef and Al-Balushi (2015) evaluated accessibility for EE and the factors affecting entrepreneurial career intentions among university students. The study survey a sample of 36 students from Oman university students. The results reported that the students seeing entrepreneurship as career option are influenced by other motivational factors that shape their entrepreneurial career intentions. However, Atef and Al-Balushi (2015) suggested that reducing barriers and growing support for students' desire to pursue entrepreneurial career against the traditional public or private sector employment. Based on these arguments the study proposed the following hypotheses:

H₅: There is significant relationship between entrepreneurship education and perceived desirability.

More specifically;

H_{5a}: There is significant relationship between entrepreneurial knowledge and perceived desirability.

H_{5b}: There is significant relationship between entrepreneurial skills and perceived desirability

2.12 Perceived Desirability and Entrepreneurial Career Option

A number of studies were conducted in relationship between PDE and entrepreneurial career choice. For instant, Fitzsimmons and Douglas (2011) study the link between PDE, perceived feasibility and entrepreneurial career intentions. The study reported that entrepreneurial career intentions to be positively associated to both PDE and

perceived feasibility. Furthermore, the study explored the likely interaction effects between PDE and perceived feasibility in the formations of the individual's entrepreneurial career intentions. However, based on regulatory focus theory, the study reported a negative contact effect between PDE and perceived feasibility in relations to entrepreneurial career intentions. Similarly, Tong, Tong and Loy (2011) examined the relationship among on the need for achievement, desire for independence and entrepreneurial career intentions. The study reported a strong positive association between the personality traits and ECO. However, the study overlooked some essential personality traits such as ESE and autonomy.

In the same direction, Ahmed et al. (2010) studied the determining factors of entrepreneurial career intentions among university business graduates in Pakistan. Responses from a sample of 276 university business students were analyzed using Pearson's correlation coefficient. The results showed a strong positive association between innovativeness and entrepreneurial career intentions. In addition, prior experience in relation to family's business exposure had significant relation to student's entrepreneurial career choice. However, Guerrero (2008) examined the influence of PDE and feasibility on student's entrepreneurial career intention across different countries. The study reported a significant association between PDE and the entrepreneurial career choice. The study suggested the need for a favorable attitude of the society towards entrepreneurial career as a prerequisite to motivate people to consider entrepreneurial career option.

Similarly in South African, Olufunso (2010) studied the motivational factors for entrepreneurial career intentions among the South African graduates. The study

reported a very low level of entrepreneurial career intentions among South Africa graduates. However, the study identified the motivational factors for entrepreneurial career intentions to include; occupation, independence and inventiveness. In addition, the study identified hitches to ECO to include; lack of access to capital, lack of competency and inadequate support. The study suggested that EE is required to enhance entrepreneurial skills and knowledge. In contrary, Plant and Ren (2010) conducted a comparative study the personal attractiveness of students graduated from business programs in the United States and China toward entrepreneurial career. The results report entrepreneurial career intent was stronger among the U.S. graduates than the Chinese counter parts when prior self-employment experience and history of self-employment is considered. The results also reported that there is a positive association between EE and entrepreneurial career intent and a negative association with enjoyment.

In another study, Engle et al. (2010) appraised Ajzen's model of planned behaviour in an effort to predict the antecedents of entrepreneurial career intentions across twelve countries. The results established that levels of the three antecedents of entrepreneurial intentions differ across nations. In addition, social norms demonstrated to be a significant forecaster for entrepreneurial career intents among all countries. Similarly, Linan (2008) examined the relationship among social norms, entrepreneurial skills, motivation and entrepreneurial career intention. The results indicated there is a significant association between entrepreneurial skills and entrepreneurial career intention. Furthermore, the study revealed that EE significantly affects the three motivational constructs considered in TPB - personal attraction, subjective norms and perceived behavioral control.

In Kenya, Wongnaa and Seyram (2014) conducted a study on factors influence students' entrepreneurial career decision. The study employed the Maximum Likelihood Estimation technique (MLE) to collect data from the respondents. The study reported that personality traits such as PDE and parental supports have significant positive influence on students' entrepreneurial career decision. However, public interpretations have significant negative impact on entrepreneurial career. At the same direction, Sharma and Madan (2014) studied the relationship among personality traits, self -employment work experience and entrepreneurial inclination. By means of chi-square analysis and cross tabulation, the study reported that past entrepreneurial career experience has negative effect on student's entrepreneurial inclination. The results also reported no relationship between the work experience and entrepreneurial preference.

Furthermore, Seta (2013) examined the relationship among PDE, ESE and entrepreneurial career intentions. The study considered PDE and ESE as antecedents to entrepreneurial career intentions. The results showed that there is positive significant relationship between the both PDE and ESE towards entrepreneurial career among university students. Consequently, based on the above arguments, the study is hereby proposing the following hypothesis:

H₆: There is significant relationship between perceived desirability and entrepreneurial career option.

2.13 Perceived Desirability as Mediator

Studies provide evidences that PDE mediates relationship between various entrepreneurial identities and entrepreneurial career intentions. Gabrielson and Politis (2011) suggested that desirability is a predictor of entrepreneurial intent and should be included in the entrepreneurial career intentions model. They advance that students who view entrepreneurial career as desirable are more likely create their own business and become entrepreneurs. Accordingly, Farmer, Yao and Kung-Mcintyre (2011) posit that PDE mediates the association between multiple entrepreneurial identities and entrepreneurial career intentions. Engle et al (2010) assessed Ajzen's model of planned behaviour to predict entrepreneurial intentions across twelve countries. The results established that the level of the antecedents of entrepreneurial intentions differ across countries. In addition, PDE proved to be a significant antecedent of entrepreneurial career intentions across all the nations.

Accordingly, Shook and Bratianu (2010) conducted a study to investigate the entrepreneurial intent of Romanian university students using multiple regression analysis to test for mediation. The survey data were drawn from 324 Romanian students and multiple regressions was used to analyze the data. The results were in consistent with the theory of planned behavior, self-efficacy and desirability related with venture creation was positively significant to entrepreneurial intents. In addition, desirability plays a significant role in the association between ESE and the entrepreneurial intent. Hatala (2005) investigated the barriers to self-employment among university graduates. The study adapted an experimental research design using pre and post training session questionnaires. The training session on entrepreneurship program that supports jobless individuals to develop their business ideas. The findings

revealed that individuals developed more positive attitude toward entrepreneurial career start-up logistics. Furthermore, desirability mediates the relationship between perceived barriers and entrepreneurial career. However, there is no significant difference in the perceptions towards financial difficulties.

Similarly, Zellweger, Sieger and Halter (2011) study the relationship between students' career choice and family business background. The study established that individuals with business family background perceived the entrepreneurial career as more practicable but not essentially desirable. Segal et al. (2002) examined the relationship between risk tolerance, perceived feasibility, PDE and entrepreneurial career intentions. The results reported a significant relationship exist among risk tolerance, perceived feasibility, PDE and entrepreneurial career intentions. Furthermore, the study reported that a stronger signal for the entrepreneurial career intention when the three variables combine together.

In addition, Lee, Wong, Foo and Leung (2011) examined the relationship between individuals' intentions to quit their jobs and entrepreneurial career option in term of starting new business ventures. Drawing a sample of 4192 IT experts in Singapore, and applying a multilevel perspective to analyzed the data. Findings indicated absence of technical motivations influence entrepreneurial career intentions. Furthermore, individual's perceived desirability and innovation orientation strengthens the association among job-satisfactions and entrepreneurial career intentions. However, based on this argument the study proposes the following hypotheses:

H₇: Perceived Desirability mediates the relationship between entrepreneurship education and entrepreneurial career option.

Specifically the study proposes the following sub-hypotheses:

H_{7a}: Perceived Desirability mediates the relationship between entrepreneurial Knowledge and entrepreneurial career option.

H_{7b}: Perceived Desirability mediates the relationship between entrepreneurial skills and entrepreneurial career option.

2.14 Supportive Environment as Moderator

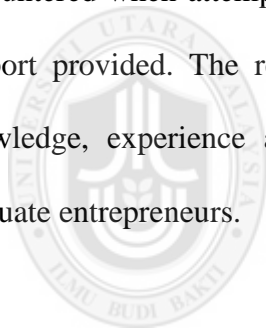
Several studies have been conducted on supportive environment as dependent, independent, moderating or intervening variable with different results, some of these studies are: Lim, Mitchell and Seawright (2010) examined the association between institutional support, social environment, entrepreneurial cognitions and the entrepreneurial career decision. The study was carried out using a sample of 757 entrepreneurs from eight different nations. The results indicated that institutional supports significantly affect individual's entrepreneurial career decision. However, Lim et al. (2010) recommended that an individual's perception of his or her nation's institutional supports influence his or her career decision. Similarly, Harbi and Anderson (2010) argued that some institutions developed by governments to encourage entrepreneurial activities actually discourage entrepreneurial career option, while other institutions that encourage entrepreneurial innovation do not appear to encourage entrepreneurial career activities.

In a comparative study, Serrano et al. (2009) studied the possible differences of prospective entrepreneurs among European countries. The study established that the

influence of individual perceptions and ESE on entrepreneurial career intentions was higher among the European countries. Serrano et al. (2009) argued that the high effect of ESE might be linked to the level of economic advances of the nations. Griffiths et al. (2009) studied the impact of macro-economic indices such as easiness of business start-up on entrepreneurial career intentions. The findings of the study revealed that transactional obstacles which measure easiness of business start-up are reported to increase the feasibility of a business start-up and are considered to be positive determinants of entrepreneurial career intentions.

In addition, Engle et al. (2011) examined the perceived significance of formal institutional support on the individual career's decision to start a new venture. A sample of 238 entrepreneurs was drawn Germany, Russia, and the United States. The results shown there is a relatively low impact of the formal institutional supports among German and American entrepreneurs, but meanwhile a moderate significance for formal institutional supports in relation to the Russian entrepreneurs. The study also support for the significance of entrepreneurial intent in predicting entrepreneurial activity. In view of that, McMullen, Bagby, and Palich (2008) examined the association between supportive environments, need for independence and entrepreneurial career commitment. The study reported a significant relationship between supportive environments and entrepreneurial career commitment. In addition, entrepreneurial career commitment and supportive environment. The study also reported that entrepreneurial career activity is positively associated with property rights.

Comparatively, Giacomini et al. (2011) studied the motivational factors influence among students across nations in relations to perceived hindrances for new venture start-up and entrepreneurial career intentions. The results reported significant variances among nations regarding the perceived hindrances for entrepreneurial career option. The study identified some of the hindrances include lack of knowledge and experience, opening capital, managerial difficulties, lack of supportive environment and fear of failure. Similar, Smith and Beasley (2011) examined the factors encourage graduates' entrepreneurial career choice in Barnsley, UK. The sample was drawn among the graduate entrepreneurs and questionnaires and semi-structured interview was used to identify the enabling and constraining factors graduate entrepreneurs encountered when attempting their starting businesses, and established the impact of support provided. The results of the study revealed that lack of general business knowledge, experience and financial supports were the perceived constraints for graduate entrepreneurs.



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In another study, Edelman and Yli-Renko (2010) examined the relationship between supportive environment in terms of opportunity perceptions and the level of entrepreneurial activity in form of new ventures start-up. The study used both objective and subjective concepts of opportunity and resources through the innovation and initiation. The study found a significant association between existing opportunities provided by supportive environment and entrepreneurial activity. However, Mohamad, Ramayah, Puspowarsito and Saerang (2011) studied the moderating effect of business environment the association among corporate entrepreneurship and firm success. A total of 108 medium sized manufacturing companies listed in the Indonesia Manufacturing Directory were used as the sample of

the study. The results indicated that government policies and economy do moderate the association between corporate entrepreneurship and firm performance.

Similarly, Aidis, Estrin and Mickiewicz (2008) in their study reported that a significant relationship exist between institutional supportive environment and low levels of entrepreneurial activity. Accordingly, a study conducted by Nimalathan and Achchuthan (2012) on relationship between entrepreneurial motivations and entrepreneurial career intention. The study reported entrepreneurial career is significantly determined by the PD. However, feasibility for self-employment, individual's tolerance for risk, and perceived government and non-governmental support did not show connection with entrepreneurial career intention. In addition, GEM reported that less developed nations with negative economic situations have documented a higher entrepreneurial activity than many of the industrialized countries (Bosma & Levie, 2010).

Additionally, Oyewobi, Windapo and Rotimi (2013) studied the moderating role of supportive environment in the association between competitive advantage and improved corporate performance. The sample was drawn construction organizations listed on the cidb register of contractors in the South African construction industry and consisted of chief executive officers and senior management employees of the organizations who have more than ten years' of work experience in their respective organizations. The result revealed that dimensions of business environment have moderating effects on organizational strategies and performance. Similarly, Shehu and Mahmood (2014) examined the relationship between supportive environment and SMEs performance. A sample of 640 respondents was drawn from SMEs owners in

the Nigerian economy and a multiple regression analysis was used to analyse the data. The results reported a significant and positive association between the supportive environment and business performance of SMEs.

Furthermore, Pratono and Mahmood (2014) studied the moderating role of environmental uncertainty in the relationship between entrepreneurial organization and firm performance. The research used hierarchical regression approach and PLS to analyse the data. The findings reported that a positive and significant impact on association between entrepreneurial organization and firm performance. Furthermore, the findings reported entrepreneurial organization has negative effect on firm performance during high environmental uncertainty. Accordingly, Kristiansen and Indarti (2014) conducted a study the link between supportive environment, business information and entrepreneurial career intentions. The study identified a significant link between business information and entrepreneurial career intentions. Moreover, empirical evidences suggested that supportive environment moderates the association between entrepreneurial orientation and entrepreneurial career choice (Okhomina, 2010; Sequeira et al., 2007). Based on the above arguments, the study seeks to propose the following hypotheses:

H₈: Supportive environment positively moderates the relationship between entrepreneurship education, entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option.

More specifically;

- H_{8a}:** Supportive environment positively moderates the relationship between entrepreneurial knowledge and entrepreneurial career option.
- H_{8b}:** Supportive environment positively moderates the relationship between entrepreneurial skills and entrepreneurial career option
- H_{8c}:** Supportive environment positively moderates the relationship between entrepreneurial self-efficacy and entrepreneurial career option.
- H_{8d}:** Supportive environment positively moderates the relationship between perceived desirability and entrepreneurial career option.



Table 2.1 *Summary of Some past Studies Reviewed*

<i>S/N</i>	<i>Variables</i>	<i>Authors</i>	<i>Country</i>	<i>Method/Theory</i>	<i>Major Findings</i>	<i>Future research</i>
1.	Culture, economic conditions and education.	Sesen, H. and Pruett, M. 2014	Turkey and the United States	ANOVA	Risk aversion has negative influence on Turkish	Further research on intrinsic motives
2.	Opportunity recognition, openness to experience, personality & self-employment.	Singh, G., Saghafi, M., Ehrlich, S. and De Noble, A. 2010	China	Hierarchical regression	Self-employment is positively related to openness to experience.	Further study on cross cultural equivalency of constructs
3.	Individual perceptions, entrepreneurial opportunities, socio-cultural perceptions & entrepreneurial intentions.	Ahmad, S.Z., Xavier, S.R., and Abu Bakar, A. 2014	Malaysia	Binary logistic regressions	Individual perceptions of entrepreneurial opportunities and entrepreneurial intention were not entirely conclusive.	Suggest future entrepreneurial cognitive research to operationalize socio-demographic with cultural contingency
4.	Personality, family background, career motives, university environment & entrepreneurial intentions.	Bernhofer, L.B. and Li, J. 2014	China	Theory of Planned Behavior (Ajzen, 2002)	Entrepreneurial career intent right after graduation is generally low.	Career choices of students need to be explored in greater depth.
5.	Entrepreneurship education, risk-perception, alertness & entrepreneurial mind-set.	Marina, Z.S., Westhead, P., Matlay, H, and Vladimir, N.P. 2013	Ukraine	. Hierarchical multiple ordinary least squares regression.	EE was positively associated with higher intensity of entrepreneurial mind-set.	A longitudinal study focusing upon large representative samples of students is needed.
6.	EE, learning environment; authentic experience and enterprise community.	Fenton, M. and Barry, A. 2014	Ireland	Qualitative research approach	EE fails to recognize the heterogeneity of learners' needs.	Further research using a larger sample size.
7.	Locus of control, entrepreneurial self-efficacy, environment & entrepreneurial intentions	Sesen, H. 2013	Turkey	Correlation and regression analysis.	University environment does not have any significant impact on entrepreneurial intents.	Longitudinal studies in the future may have different results.
8.	EE, entrepreneurial attitudes, motivations & entrepreneurial career	Jones, P. Miller, C., Jones, A. Packham, G., Pickenell, D. and	Poland	Qualitative approach/TPB	Entrepreneurial education has significant impact on entrepreneurial career	Additional research must be undertaken to explore this further.

<i>S/N</i>	<i>Variables</i>	<i>Authors</i>	<i>Country</i>	<i>Method/Theory</i>	<i>Major Findings</i>	<i>Future research</i>
9.	Entrepreneurial learning, graduate career, economic context & employability	Rae, D. and Woodier-Harris, N. 2013	UK	Mixed method	EE has a wider influence on personal development and career planning.	Further research using large sample
10.	Entrepreneurial education, motivational characteristics, demographic profile & career aspirations	Beynon, M. J., Jones, P., Packham, G. and Pickernell, D. 2014	UK	Classification and Ranking Belief Simplex (CaRBS)	Negative relationship between entrepreneurial education and self-employment career choice	
11.	Environmental turbulence, entrepreneurial management and firm performance	Pratono, A. H. and Mahmood, R. 2014	Indonesia	Hierarchical regression approach and partial least square method	Environmental turbulence has positive impact of entrepreneurial management.	Future study to include both first and second order variables within one model.
12.	Entrepreneurship training, entrepreneurship behaviour, external environment & SMEs development.	Njoroge, C.W. and Gathungu, J. M. 2013	Kenya	Exploratory research	Mixed relationship between entrepreneurship training and entrepreneurial development.	Further research using other method.
13.	Education, endogeneity, entrepreneurial choice & occupational choice	Block, J. H., Hoogerheide, L. and Thurik, R. 2011	27 European countries and the USA	Instrumental variables approach & regression model	Strongly positive association between education & entrepreneurial choice.	Education may be correlated with explanatory variables that are omitted.
14.	Risk perception, economic context, entrepreneurial motivation & entrepreneurial intentions.	Nabi, G. and Liñán, F. 2013	Spain and Great Britain	Structural Equation Model (SEM)	Risk perception is strongly linked with entrepreneurial motivation.	Further research based on the framework should also be carried out.
15.	Employment opportunities, subjective norm, perceived behavioural control & entrepreneurial intentions.	Vinogradov, E., Kolvereid, L. and Timoshenko, K. 2013	Ukraine	Hierarchical regression/TPB	Employment opportunity was found not to have a moderating effect on the relationship between PBC and intentions.	The attractiveness of alternative career options should be included in future studies.
16.	Entrepreneurial self-confidence, entrepreneurial intention & gender.	Jose Luis, M.C. 2011	Colombia.	Hierarchical multiple regression	Gender has no mediating effect on the relationship between self-efficacy & entrepreneurial intention.	Alumni could be surveyed in future research.

Table 2.1: (Continued)

<i>S/N</i>	<i>Variables</i>	<i>Authors</i>	<i>Country</i>	<i>Method/Theory</i>	<i>Major Findings</i>	<i>Future research</i>
17.	Entrepreneurial career, entrepreneurial aspirations, affiliation motives & emotional support	Decker, W. H. Calo, T. J. and Weer, C. H. 2012	USA	SEM	Entrepreneurial career was negatively associated with the need for emotional support.	Future research should distinguish on different types of entrepreneurial opportunities.
18.	Entrepreneurial intentions, barriers and perceived enabling factors	Smith, K. and Beasley, M. 2011	U.K	Mixed method	lack of general business knowledge & experience negatively affects entrepreneurial career	Further studies are required to explore the effect of the creative identity.
19.	Entrepreneurship training, entrepreneurial intention, Opportunity recognition & feasibility.	Molaei, R., Zali, M.R., Mobaraki, M.H. and Farsi, J.Y. 2014	Iran	SEM	Students' entrepreneurial intention is highly influenced by entrepreneurial ideas.	
20.	Emotional intelligence, cultural intelligence, decision-making self-efficacy, entrepreneurial career intention.	Jiang, Z. & Park, D.S. 2012	China & Korea	Multiple regression	The results indicate that ECI is positively related to aspect of EQ & moderating roles in the relationships of the variables were found.	Further researches examining these factors in different contexts are needed.
21.	Stigma, regulatory environment, entrepreneurial risk taking & entrepreneurial activity.	Damaraju, N. L., Barney, J. & Dess, G. 2010	15 GEM countries	Multilevel hierarchical logistic regression	Findings show causal linkages between general attitudes towards failed entrepreneurs and entrepreneurial activity	Future research on effects of stigma and stigma symbols on entrepreneurial behavior provide.
22.	Entrepreneurship, Career choices, Individual factors & entrepreneurial inclination.	Sharma, L. & Madan, P 2014	India	Cross tabulation and Chi square test	Self-employment experience has a negative impact on student's entrepreneurial inclination	Further research on the impact of family, society & culture in building entrepreneurial inclination
23.	Corporate entrepreneurship, firm performance & business environment.	Mohamad, O., Ramayah, T., Puspowarsito, H., Natalisa, D. & Saerang,	Indonesia.	Three-step hierarchical regression	Moderating effect of the business environment was established.	The research used CEO, future research can use other sources to reduce this common method

Table 2.1: (Continued)

<i>S/N</i>	<i>Variables</i>	<i>Authors</i>	<i>Country</i>	<i>Method/Theory</i>	<i>Major Findings</i>	<i>Future research</i>
24.	Entrepreneurship education, self-esteem, entrepreneurial intention & family tradition.	Kunday, O. and Çakir, C. 2014	Turkey	Multiple regression analysis	Relationship between self-esteem and entrepreneurial intention exist.	Future research should include additional variables
25.	Business strategy, competitiveness, corporate planning & organisation.	Oyewobi, L.O., Abimbola O. Windapo, A.O., & Rotimi, J. O.B. 2013	South Africa	Regression analysis	Business environment have moderating effects on organizational strategies and performance.	
26.		Von Graevenitz, G., Harhoff, D. & Weber, R. 2010	Netherlands	Experimental	Entrepreneurship program has a negative influence on entrepreneurial career.	
27.	Entrepreneurship education, self-employment intention & students' perception.	Abdulai, A. 2015	Ghana	Quasi-experimental	EE positively influences students' perception of self-employment and hence entrepreneurial career intentions.	Future research on effect of EE on long term changes in entrepreneurial career intentions.
28.	Achievement motivation, self-efficacy & entrepreneurial career intentions.	Olakitan, O.O. 2014	Nigeria	Pearson Correlation.	Significant relationship exists between self-efficacy and entrepreneurial career intentions.	
29	Business environment, Small and Medium Enterprises & Performance.	Shehu, A. M. & Mahmood, R. 2014	Nigeria	Multiple regression	Positive relationship between the business environment and business performance of SMEs.	A longitudinal study is suggested.
30.	Entrepreneurship education, entrepreneurial competencies and skills, entrepreneur intentions and motivation.	Oosterbeek, H., Van Praag, M. & IJsselstein, A. 2010	Netherlands	Experimental	Negative relationship exists between EE and entrepreneurial career intentions.	

<i>S/N</i>	<i>Variables</i>	<i>Authors</i>	<i>Country</i>	<i>Method/Theory</i>	<i>Major Findings</i>	<i>Future research</i>
31.	Entrepreneurship, innovativeness, demographics & entrepreneurial intentions.	Ahmed, I., Nawaz, M.M., Ahmad, Z., Shaukat, M.Z., Usman, A., Rehman, W and Ahmed, N. 2010.	Pakistan	Descriptive statistic and Pearson's correlation coefficient	Prior experience inclines to entrepreneurial career.	Future study should include other entrepreneurial traits.
32.	Role models, entrepreneurial self-efficacy & entrepreneurial intentions	Austin, M. J. and Nauta, M. M. 2015	USA	Multiple regression analysis.	ESE mediates the relationship between role-model exposure and females' entrepreneurial career interests.	Additional research is needed to verify the causal nature of these relationships
33.	Entrepreneurship, institutional support & entrepreneurial intent.	Engle, Schlaegel and Dimitriadi 2011	Germany, Russia & USA	Descriptive statistic	A relatively low impact of institutional support.	The need to re-examination how institutional supports really influence entrepreneurial career decision.
34.	Institutional support, social environment, entrepreneurial cognitions & entrepreneurial career	Lim, Mitchell and Seawright 2010	Cross-cultural.			
35.	Self-efficacy, religious values & entrepreneurial orientation	Mohda, R., Kiranab, K., Kamaruddina, B. H., Zainuddina, A. & Ghazali, M. C. 2014	Malaysia	hierarchical analysis	Self-efficacy mediates the relationship between the variables	Future research to verify the results using cross-cultural and cross-country data.
36.	Entrepreneurial intention, Entrepreneurial learning behaviour & Entrepreneurial self-efficacy.	Chun-Mei, C., Chien-Hua, S. and Hsi-Chi, H 2011	Taiwan	linear structural analysis (LISREL version 8.5)	ESE has a significant effect on entrepreneurial learning behaviour.	Future researches by adding or deleting a variable.
37.	Self-efficacy, innovation, culture, individualism & innovativeness.	Kumar, R. & Uz Kurt, C. 2010	Turkey		Positive relationship between self-efficacy and innovativeness	

Table 2.1: (Continued)

S/N	Variables	Authors	Country	Method/Theory	Major Findings	Future research
38.	Entrepreneurial self-efficacy, entrepreneurial orientation, innovation motivation & innovation orientation	Nordin, N., Samsudin, M. A. and Md. Zain, A. N. 2015	Malaysia	Model-fitting approach Using multivariate design	ESE mediates relationship between creativity, EO, IM and innovation orientation.	Similar research using different research design
39.	Entrepreneurship education, entrepreneurial self-efficacy, self-efficacy, entrepreneurial intention	Malebana M.J. & Swanepoel, E. 2014	South Africa	Multivariate Analysis using SPSS	Significant relation exist between EE & ESE	Longitudinal study to examine the long term effect
40.	Entrepreneurship education, Entrepreneurial Self-Efficacy	Setiawan, J. L. 2014	Indonesia	Friedman Two-way Analyses of variance	Significant relation exist between EE & ESE	Future research using large sample size.
41.	Entrepreneurial intention, self-efficacy, environment perception, entrepreneurial attitude.	Díaz-García, C., Sáez-Martínez, F. & Jiménez-Moreno, J. 2015	Spain			
42.	Entrepreneurial self-efficacy, entrepreneurial intentions, Gender entrepreneurship education.	Shinnar, R. S., Hsu, D. K. & Powel, B. C. 2014	USA	Quasi-experimental design	Positive correlation between ESE and entrepreneurial career intentions.	A cross-cultural study is suggested.
43.	Entrepreneurship education, entrepreneurial intention, entrepreneurial training, entrepreneurial self-efficacy.	Ali, D. F. 2013	Iran	Binary logistics regression		Need for comparative studies using countries with different level of economic development.
44.	Entrepreneurialism, narratives influence, role models, Self-efficacy, entrepreneurial intention, emotional arousal.	Eric, M. L., Miruna, R. L. & Olivier, B. 2012	French	SEM	EE enhances self-efficacy and entrepreneurial intention.	Additional variables such as personality traits, locus of control and self-confidence could be used to further explore in relationship.
45.	Mentoring, entrepreneurial career, career satisfaction, entrepreneurial self-efficacy & retention.	St-Jean, E. and Mathieu, C. 2015	Canada	Correlation matrixes	ESE mediating the relationship between work satisfaction and	A more complete model should be used in the future.

2.15 Underpinning Theory

Previous studies have revealed that several factors play important part in determining individual's career choice which involved decision of whether individual to chooses be self-employed (entrepreneurial career option) or to employed by others (employee) (Douglas & Shepherd, 2002; Eccles & Wigfield, 2002; Sheu et al., 2010). However, career choice is perceived as a cognitive process determined by beliefs, attitudes and prior experiences, as confirmed by the previous studies that entrepreneurial career choice also fit in a related pattern (Bandura, 1986; Katz 1992; Linan, 2004; Shaver & Scott 1992). Therefore, two theories to underpin this study are Human Capital Theory (HCT) and Social Cognitive Career Theory (SCCT).

The HCT advocates human capital can be improve through proper and quality education and training. Human capital theorists encourage nation's investment on human capital asset through education, training and development (Olaniyan & Okemakinde, 2008). Moreover, human capital development through value education is a critical issue that drives economic growth and justifiable development of nation. Accordingly, the desire to pursue entrepreneurship as a career option is a function of incentives and motivation which both assimilated through participation in EE, while previous entrepreneurial experience motivate individuals to consider self-employment as a career option (McMullen & Shepherd, 2006).

In the other hand, Social Cognitive Career Theory (SCCT) is considered to be an extension of Bandura's Social Cognitive Theory (Lent, Brown & Hackett, 1994). SCCT proven that the related concept of outcome expectations, the beliefs about the consequences of execution certain behaviors, together with self-efficacy beliefs, are major determining factors for a particular behavior or action. In this direction, individuals consider entrepreneurial career option only when it is identify as a career option that fits motivational value orientation (utility). Hence, the expected utility values represent a motivational basis that should be considered an essential element in determining why people do consider entrepreneurial career option.

Entrepreneurial self-efficacy and perceived desirability are conceivable not to operate independently in the development of ECO. Social Cognitive Career Theory (SCCT; Lent et al., 1994) advocates that self-efficacy mediates the relationship between the individual's learning experiences which are acquired through education and training and important outcomes, such as career decision and choice. Thus, engaging in an entrepreneurship education program may increases the level at which a person feels worthwhile for being an entrepreneur as an alternative career option because the model provides individuals with knowledge and skills his or her successes as a potential entrepreneur. In addition, BarNir et al. (2011) empirical supported SCCT-based mediational model and confirmed that ESE mediates the link between exposure to entrepreneurial role models and individual's entrepreneurial career intentions.

SCCT assumes that individual's career choice is influenced by ESE and need to succeed in a career (Brown & Lent, 2006) and the expected outcomes (Douglas & Shepherd, 2002), a career potentially label depends on individual's utility expectation from the career activity (Brown & Lent, 2006; Douglas & Shepherd, 2002). The theory postulates a joint but disproportionate relationship between perceived efficacy and occupational interests, with efficacy beliefs playing the stronger basis role. However, the expected outcome from a particular career which is translated here into the perceived desirability construct is consistent with the prior studies that employ the constructs of desirability and self-efficacy (Lent, Lopez & Bieschke, 1993; Lent et al., 1994).

However, since entrepreneurial career option is considered as intentional and cognizant decision (Krueger et al., 2000), so it seem rational to analyses by what means that this important decision is taken. Accordingly, individual and situational variables ultimately influenced entrepreneurial career decisions by prompting key attitudes and perceptions (Ajzen, 1991; Krueger et al., 2000). Moreover, EE affects entrepreneurial career intention only if they change key attitudes and perceptions such as PDE for self-employment and perceived ESE. In turn, entrepreneurial intention is the best predictor of the entrepreneurial action (Ajzen, 1991; Shapero & Sokol, 1982; Veciana et al., 2000). Therefore, this study is based on integration of both the HCT and SCCT as the consequence of the contact among relative factors, which would act through their effect on the person's perceptions.

2.16 Theoretical Framework

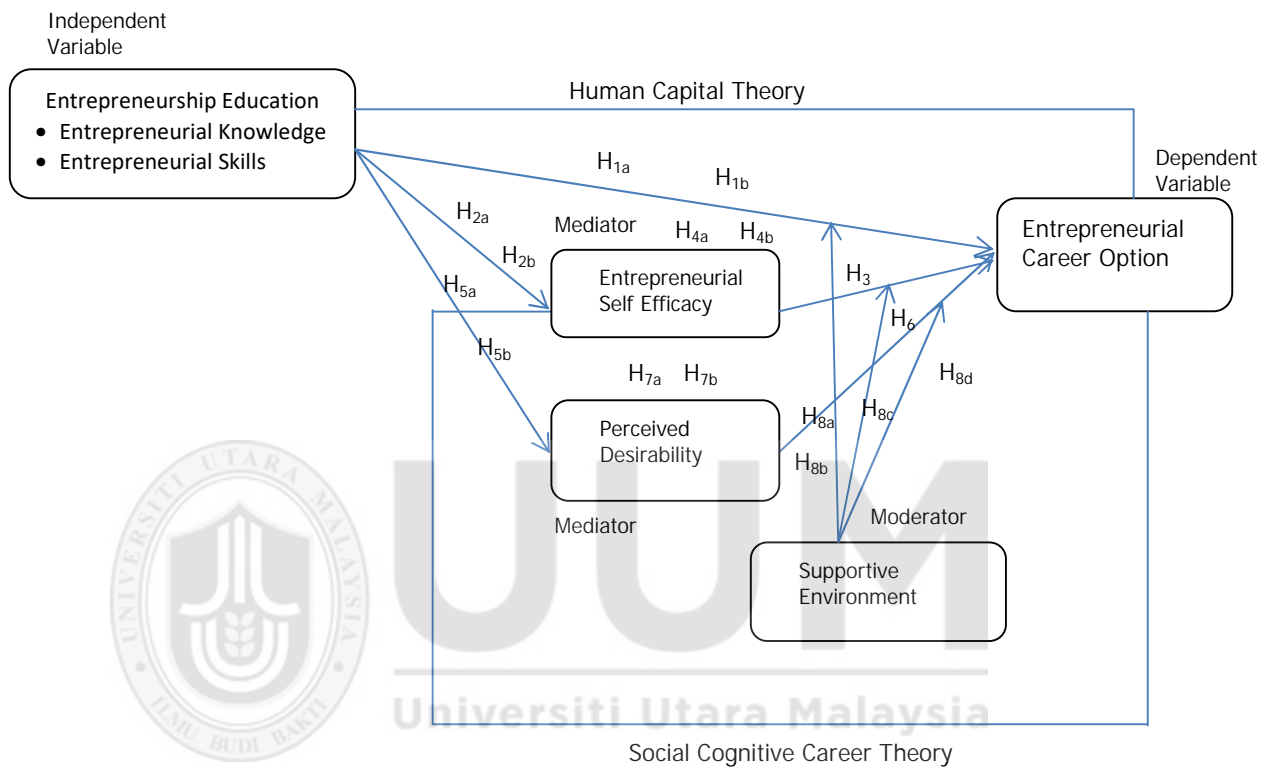


Figure 2.2
Theoretical framework

In line with the gap identified in the literature reviewed as stated in the problem statement, the figure 2.2 above represented the theoretical framework of the study. The figure presented four other constructs in relation to entrepreneurial career option. Specifically, the figure presented entrepreneurial career option as dependent variable (DV) and entrepreneurship education as independent variable (IV). While both the entrepreneurial self-efficacy and perceived desirability are consider as mediating variable and, supportive environment as moderator.

2.17 Summary of the Chapter

The chapter two reviewed the past and existing related literature on ECO. The chapter also looked over and reviewed the empirical works on the other four variables of study, namely entrepreneurship education, entrepreneurial self-efficacy, perceived desirability and supportive environment. These variables were studied and discussed in order to offer a better clarification of the framework of study, and led to the formulation of hypotheses to answer the research questions. Theoretical underpinnings such as HCT and SCCT were used with the possibility of establishing the relationships between the theories with the theoretical framework of the study. The research methodology employed in this study is discussed in the next chapter.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter described the design of the study, population, sample and sampling method adapted in the process of data collection for the study. Furthermore, the chapter also deliberated on the operationalization, measures of variables, method for data collection and analysis.

3.2 Research Design

According to Kothari (2010) and Sekaran and Bougie (2013) research design consist of series of procedures used in collecting, organizing and analyzing the data of the study in such a manner that aims to achieve the research objectives with economy in technique. In other words, the research design can be seen as the conceptual structure at which the research work is based on; it forms the blueprint for collecting, organizing, measuring and analyzing data based on the research questions of the study. In addition, Zikmund et al. (2010) classified research design comprehensively in relation to the purpose of the study into three types; 1) exploratory design as research conducted to clarify ambiguous situation 2) descriptive design as research that describes characteristics objects of interest at a given situation and, 3) causal design that permits casual interpretations to be made; it try to determines cause and effect relationships among variables.

Basically, in line with the problem statement and objectives of this research, a descriptive research design using quantitative method is considered more appropriate for this study (Kothari, 2010). A descriptive research design was embarked upon to determine the relationship between the variables of the study and be able to describe the features of these variables in relation to one another (Cavana, Delahaye & Sekaran, 2001). In addition, previous similar studies also adapted descriptive research design (Ahmed et al., 2010; Ahmad et al., 2014; Bernhofer & Li, 2014; Decker, Calo & Weer, 2012; Fenton & Barry, 2014; Marina et al., 2013; Singh, Saghafi, Ehrlich & De Noble, 2010; Taneja, Taneja & Gupta, 2011; Vinogradov, Kolvereid & Timoshenko, 2013), hence the study adopted a descriptive research design.

Descriptive research design is a research design that collects, organizes and analyses data that describe the feature of events, situation, and group of persons or individuals of interested by the research (Sekaran & Bougie, 2013). Hence, the study focused on describing the characteristics features of the population in relation to the variables under the study. More specifically, the study was interested in assessing the mediating and moderating effect on the relationship among EE, ESE, PDE, SEN and ECO. Successively, a survey research method was considered more appropriate method to achieve this goal. However, the setting of the data collection for the study was cross-sectional survey, since the data were collected at a particular point in time. Such a study according to Zikmund et al. (2010) samples various sections of the population to examine relationship between variables of interest by cross-tabulation.

3.3 Population of the Study

A population is defined as a collection of individual persons, things, or events of importance that the researcher intends to explore at a given point in time (Sekaran & Bougie, 2013). Zikmund et al. (2010) defined population as any collection of objects or individuals that share common features which the researcher wishes to investigate. A research population according to Hair et al. (2010) includes of a gathering of data and information of particular item of interest whose properties are to be analyzed by the researcher in a given research work. Furthermore, population could be defined as the entire collection of the subject of interest to be studied in a research (Cavana et al., 2001). In addition, Creswell (2012) described population of a study as group of individuals with some common characteristics or features of interest to the researcher at point of time. Sekaran and Bougie (2013) suggested that the population need to be precise in terms of components, places, and time period.

In this regard, the population for this study consisted of all the final year undergraduate students that offer business, agriculture, home management, technology or engineering courses during 2015/2016 academic session at entirely all federal universities in the nineteen states of the northern Nigeria and Federal Capital Territory (FCT). The final year students were chosen as the population because they are at their career decision stage and also used in similar previous studies (Bilge & Bal, 2012; Carsrud & Brännback, 2011; Ellen, 2010; Fatoki, 2014; Karimi et al., 2010; Kenan, Temurlenk & Ba ar, 2008; Uduak & Aniefiok, 2011; Souitaris et al., 2007).

Accordingly, based on the Joint Admission and Matriculation Board (JAMB) statistics (2011 & 2012) the population of this study consisted of a total 36,798 final year students offering business, agriculture, home management, technology or engineering courses during 2015/2016 academic session from all the federal universities at the northern part of Nigeria. However, these students differ in their areas of studies but undertook entrepreneurship education as a compulsory course as stipulated in the national curriculum (National University Commission, 2004) and therefore are expected to consider entrepreneurial career option in their different areas of specializations (Olakitan, 2014; Sharma & Madan, 2014; St-Jean & Mathieu, 2015). In this regard, many of these universities do not make the list of students accessible in their database and therefore making the sampling frame very difficult to obtain. Sekaran and Bougie (2013) suggest the use of cluster sampling to determine the population size and sampling frame work for the study. Therefore, the study used cluster sampling technique to determined sample of the survey.

Although not all the respondents are business degrees, but undergone entrepreneurship education as a course and it is conceived that any of these students might consider entrepreneurial career option in their area of specialisation (Abdulai, 2015; Dell, 2008; Jiang & Park, 2012; Kunday & Çakir, 2014; Molaei et al., 2014; Olakitan, 2014; Sharma & Madan, 2014; St-Jean & Mathieu, 2015).

3.4 Sample and Sample Size

A sample is seen as the subsection of the population which can be used to represent the population in a study. By means of the sample, the investigator should be able to

draw conclusion that could be generalized to the whole population (Cavana et al., 2001; Sekaran and Bougie, 2013). Furthermore, it is essential to use the right sample size for a research outcome to be generalized and the more representative of the population the sample, the more generalizable are the findings of the research. According to Creswell (2012), sampling is the practice of choosing adequate units of elements within the population of the study to represent the whole population. However, investigation on the properties of the sample makes it possible for the investigator to generalize such properties to the entire population.

In addition, Zikmund et al., (2010) suggested that there are three important issues that are required to determine the sample size of a study: (1) the heterogeneity (i.e., variance) of the population; (2) the degree of acceptable error (i.e., \pm some amount); and (3) the confidence level (i.e., 90 percent, 95 percent or 99 percent). In other words, to determine the sample size the researcher should be able to know the standard deviation of the population, the confidence interval, and confidence level. However, once these factors were determined the sample size can be calculated using the designed formula as follows:

$$n = \left(\frac{Zs}{E}\right)^2$$

Where:

n = sample size

z = standard value that corresponds to confidence level of the sample

s = standard deviation of the population

E = acceptable magnitude of error / confidence interval.

Furthermore, predetermined statistical tables have been fashioned for deciding the sample size of a given population. Moreover, the ever growing needs for representative sample in empirical research have created an increasing demand for effective methods of determining sample size of a given population. In order to address this problem, Krejcie and Morgan (1970) generated a statistical table for determination of sample sizes for a given population. This table suggests different sample sizes for different ranges of the population. Accordingly, the sample size of this study was determined using Krijcie and Morgan (1970); and subsequently used the formula method to ensure the sample is enough for the conduct of the study. In this regard, based on JAMB statistics (2012) there are 36,798 final year students at entirely all federal universities of the northern part of Nigeria and this constituted the population of the study. Hence, Krijcie and Morgan's table suggest a sample size of 379 students to be selected and served as the sample of the study. Furthermore, to minimize sampling error and take care of nonresponse rate issues, the sample size was multiplied by two as suggested in Hair, Wolfenbarger and Ortinall, (2008). Therefore, a total of 758 questionnaire forms were administered as the sample of the survey.

3.5 Sampling Design

Sampling design can be categorized into two major types namely; probability and non-probability sampling technique. Probability sampling technique is the most preferred sampling method when representativeness of the population is the most importance factor and the researcher is interested for generalization of the findings (Cavana et al., 2001; Sekaran & Bougie, 2013; Zikmund et al., 2010). Furthermore,

Sekaran and Bougie (2013) suggest the consideration of the following points when choosing a sampling design for a particular research:

1. The nature of the population of the study.
2. Parameters of interest to the study.
3. The kind of sampling frame.
4. Costs attached to the sampling design.
5. Availability of time to collect data from the sample.

In this regard, the study used probability sampling designs to carry out the research. A probability sampling designs allow every elements in a given population to have equal chance being choose as portion of the sample (Sekaran & Bougie, 2013; Zikmund et al., 2010). A cluster sampling technique as one of the probability sampling design was used to determine the sample for the study. The major reason for cluster sampling is to generate appropriate sample size economically, while maintaining the features of a probability sampling (Zikmund et al., 2010). In this case, clusters consist of geographic areas as such the area of the study was divided into three geo-political zones namely; northeast, northwest and northcentral zone. The Table 3.1 shows the three geo-political zones and the number of federal universities at each zone.

Table 3.1

Geo-political Zones at the Northern Nigeria and Respective Federal Universities at each Zone

No	North-east Zone (cluster 1)	North-west Zone (cluster 2)	North-central (cluster 3)	Zone
1.	Abubakar Tafawa Balewa University Bauchi	Ahmadu Bello University Zaria	Federal University Wukari	
2.	Federal University Kashere	Bayero University Kano	Federal University of Technology Minna	
3.	Modibbo Adama University of Technology Yola	Federal University Gashua	Federal University Lafia	
4.	University of Jos	Federal University Dutse	Federal University Lokoja	
5.	University of Maiduguri	Federal University Dutsin-Ma	University of Ilorin	
6.		Federal University Birnin Kebbi	University of Agriculture Makurdi	
7.		Federal University Gusau	University of Abuja Gwagwalada	
8.		Usmanu Danfodiyo University		

Source: Adapted from JAMB, (2012)

From the table above each geo-political zone represented a cluster from which two universities were selected at random and also proportionate numbers of students were selected using simple random method from each university to form the sample of the study. Meanwhile, the randomly selected universities from the three geo-political zones were; Abubakar Tafawa Balewa University Bauchi, Modibbo Adama University of Technology Yola, Bayero University Kano, Ahmadu Bello University Zaria, Federal University of Technology Minna and University of Ilorin. In addition, the study adapted cluster sampling design for its applicability in priors similar studies (Adejimola & Olufunmilayo, 2009; Dohse & Walter, 2012; Ellen, 2010; Franco, Haase & Lautenschlager, 2010; Ifedili & Ofoegbu, 2011; Karimi et al., 2010; Kim-Soon et al, 2013; Ndedi & Ijeoma, 2008; Olufunso, 2010; Oriarewo et al., 2013; Owoseni & Akanbi, 2011; Oyeku, 2014; Packham et al., 2010).

Furthermore, Table 3.2 shows the proportionate number of respondents that were selected as sample from each selected university using simple random technique.

Table 3.2
Students' Population and Sample Proportion per University

No	University	Students' Population	Sample's Percentage	Proportionate Sample
1.	Abubakar Tafawa Balewa University Bauchi	2043	9.79	74
2.	Modibbo Adama University of Technology Yola	939	4.50	35
3.	Bayero University Kano	4115	19.71	149
4.	Ahmadu Bello University Zaria	3806	18.23	138
5.	Federal University of Technology Minna	2574	12.33	93
6.	University of Ilorin	7399	35.44	269
	Total	20,876	100	758

3.6 Unit of Analysis

A unit of analysis is seen as the level of aggregation of the data gathered during the process of data analysis stages (Cavana et al., 2001). It represents who or what is being studied in a given research. However, evidences were established that social sciences researches have used individual, organization, social interaction or a group of organization/individual as unit of analysis (Creswell, 2012; Hair et al., 2010). A unit of analysis is consistent with research problem, research questions and objectives of the study (Cavana, et al., 2001). In this study, the final year undergraduate students were served as the unit of analysis. Final year students have been widely used as unit of analysis by many researchers in the field of entrepreneurial career studies (Fatoki, 2010; Jiang & Park, 2012; Krueger et al., 2000; Kuckertz & Wagner, 2010; Linan et al., 2011; Matlay, 2011; Molaei et al.,

2014; Naktiyok et al., 2010; Nwankwo, Kanu, Marire, Balogun & Uhiara, 2012; Olakitan, 2014).

In addition, final year students are seen as the most appropriate respondents because they are at the stage of career decision making (Ahmed et al., 2010; Buttar, 2013; Fitzsimmons & Douglas, 2011; Gibb, 2010; Gibcus et al., 2012; Hattab, 2014; Ifedili & Ofoegbu, 2011; Jiang & Park, 2012; Jones et al., 2008; Liñán et al. 2007; Liñán et al., 2011; Mushtaq et al., 2011; Nishantha, 2008; Njoroge & Gathungu, 2013; Popescu, 2013; Rae & Woodier-Harris, 2013; Sharma & Madan, 2014; Walter et al., 2013; Wang, Wei, & John, 2011; Weerakoon & Gunatissa, 2014).

3.7 Data Collection Procedure

The data collection process started with the submission of introductory letter for data collection and research work (see Appendix B) to the units' heads of the various universities. The letter certified that the researcher is a student of Universiti Utara Malaysia (UUM) conducting a research work and appealed that the exercise is purely academic. The sample size 379 respondents were drawn based on recommendation of Krijcie and Morgan (1970) sample size determination table. However, in order to minimize sampling error and take care of non-responses bias, the sample size was multiplied by two as suggested in Hair et al. (2008). Henceforth a total of 758 questionnaire forms were personally distributed with the help of research assistants to the final year students across the six randomly selected universities at the northern part of Nigeria. The respondents were randomly selected based on proportionate random sampling technique (see table 3.2). In this regard, the

universities were divided into clusters – north-east, north-west and north-central, and two universities were randomly selected from each cluster. In addition, a proportionate sample (see table 3.2) was randomly selected from each of six selected universities in a region.

In order to increase the response rate, the researcher together with the research assistants made a number of follow up mainly through personal contact with the respondents, heads of departments and the students' representatives. In addition, the researcher made personal phone calls during the process of data collection in order to encourage and remind the respondents to respond (Dillman et al., 2009; Traina, MacLean, Park, & Kahn, 2005; Porter, 2004; Sekaran, 2003). So also, the research assistants made several efforts including personal visitations and phone calls to retrieve the questionnaire distributed from the respondents. The data collection period took about four months starting from 12th April, 2016 and ended at 4th August, 2016 (see Appendix C – D). In the process a total of 432 questionnaires were duly completed and returned that represents 57 percent response rate.

3.8 Operationalization and Measures of Variables

Working definitions of the variables are considered essential in order to quantify the abstract conceptions such as those frequently fall into the particular areas of the study (Cavana et al., 2001). However, operationalization of concept is often through considering at the behavioral facets, dimensions, or properties symbolized by the concept. In addition, these behavioral facets, dimensions, or properties are transformed into observable and quantifiable features so as to generate an index for

measurement of the concept. According to Sekaran and Bougie (2013), operationalizing a concept comprises a sequence of stages includes coming up with definition of the constructs that the researcher intent to measure, answer formative, and the reliability of the measuring scale. In this study the measurements of variables were either adapted or adopted in the previous studies and were discussed as follows:

3.8.1 Measures for Entrepreneurial Career Option

Entrepreneurial career option is operationalized as the conscious and precise decision made for preference of entrepreneurship as career (Moriano et al., 2012). The entrepreneurial career option was measured using 14 items which were adapted from the work of Moy Vivienne, Jane, Luk Philip and Wright (2003) and the items were rooted from the previous work of Theng and Boon (1996). However, the construct was initially measured using 12 items (Moy Vivienne et al., 2003) but here in this study the eleventh item “I prefer entrepreneurial career to recognize and exploit business opportunities” and twelfth item “I prefer entrepreneurial career to develop new ideas, innovations and initiatives” were divided into two items each because of their double barrel nature. Therefore, the construct was measured using fourteen items as shown in Table 3.3.

Table 3.3
Measures for Entrepreneurial career option

No	Item
1.	I prefer entrepreneurial career to increase my personal income.
2.	I prefer entrepreneurial career to increase my opportunity.
3.	I prefer entrepreneurial career to acquire personal wealth.
4.	I prefer entrepreneurial career to be my own boss.
5.	I prefer entrepreneurial career to become self-employed.

6. I prefer entrepreneurial career to control my own destiny.
7. I prefer entrepreneurial career to acquire personal security.
8. I prefer entrepreneurial career to enjoy my personal excitement.
9. I prefer entrepreneurial career to meet business challenges.
10. I prefer entrepreneurial career to prove I can do it.
11. I prefer entrepreneurial career to recognize business opportunities.
12. I prefer entrepreneurial career to exploit business opportunities.
13. I prefer entrepreneurial career to develop new ideas.
14. I prefer entrepreneurial career to develop new innovations and initiatives.

Source: Adapted from Moy Vivienne et al., (2003)

Five-point Likert scale was used to measure the items in this section ranging from 1 being “Strongly disagreed” to 5 being “Strongly agreed”. Moy Vivienne et al., (2003) reported Cronbach’s alpha reliability coefficient of 0.78. These measures were considered reliable for the study in line with Sekaran and Bougie (2013) who suggest that any measure with reliability index of .70 and above is highly reliable and should be consider appropriate for social sciences research.

3.8.2 Measures for Entrepreneurship Education

Entrepreneurship education is seen as a practice of providing persons with the aptitude to identify business opportunities and the knowledge, skills and attitudes to exploit the opportunities (Jones & English, 2004). However, the study used EE as multi-dimensional construct; 1) entrepreneurial knowledge and, 2) entrepreneurial skills as suggested by Linan (2004). The EE items used for measuring entrepreneurial knowledge comprised of six items which were adapted from Weber, et al. (2009). However, item one of the measures “I understand better the attitudes,

values and motivation of entrepreneurs” because of the double barrel nature was divided into three items in this study. Therefore a total of eight items were used to measure the construct as presented in Table 3.4.

Table 3.4
Measures for Entrepreneurial knowledge

No	Item
1.	I understand better the attitudes of entrepreneurs.
2.	I understand better the entrepreneurial values.
3.	I understand better the motivation of entrepreneurs.
4.	I understand better the steps that one has to take to establishing a new business.
5.	I know everything that is needed to start a new business.
6.	I learn the practical managerial skills for establishing a new business.
7.	I understand better the networking skills for establishing a new business.
8.	I learn the skills to recognize new business ideas.

Source: Adapted from Weber et al. (2009)

On the other hand, entrepreneurial skills were measured using six items also which were adapted from Liñán (2008). In this study item four “I have the leadership and communication skills to manage my own business” and item six “I have the networking skills and professional contracts to establish and manage my business” were divided into two items each because of the double barrel nature of the items. Therefore a total of eight items were used to measure entrepreneurial skills in this study as shown in Table 3.5.

Table 3.5
Measures for Entrepreneurial Skills

No	Item
1.	I can easily recognize business opportunities around.
2.	I have the creativity to establish my own business.
3.	I have the problem solving skills to manage my own business.
4.	I have the leadership skills to manage my own business.
5.	I have the communication skills to manage my own business.
6.	I can easily develop new products and services.
7.	I have the networking skills to establish my business.
8.	I have the professional contacts to establish my business.

Source: Adapted from Liñán (2008).

However, a five-point Likert scale was used to measure the items with a range from 1 being “Strongly disagreed” to 5 being “Strongly agreed”. Weber et al. (2009) and Liñán (2008) reported a high scale reliability of the surveys items with Cronbach’s alpha reliability coefficient of 0.92 and 0.86 respectively.

3.8.3 Measures for Entrepreneurial Self-efficacy

ESE has been established using career-related theories as the major influence for individual’s consideration of entrepreneurial career option (Bandura, 1986; Lent, Brown & Hacket, 1994). Operationally, ESE is seen as the amount of believes individual has on his or her ability to effectively start and sustain a business venture. Many studies used ESE as multi-dimensional construct (Barbosa, et al., 2007; Chen, et al. 1998; De Noble, et al., 1999; McGee, et al., 2009; Mueller & Goic, 2003; Shook et al., 2003; Zhao et al., 2005). Nevertheless, ESE was used as unidimensional construct in this study as established by other previous studies

(Chen, Gully & Eden, 2001; Tominc & Rebernik, 2007; Weber et al., 2009). The ESE items used for this study were adopted from Weber et al. (2009) and Chen et al. (1998). These items are presented in Table 3.6.

Table 3.6
Measures for Entrepreneurial Self-efficacy

No	Item
1.	I believe I could successfully start my own business.
2.	I believe I can create products or services that fulfil customers' unmet needs.
3.	I believe I can think creatively in business.
4.	I believe I can achieve goals and objectives related to a new business venture.
5.	I believe I can build a management team to develop a business.
6.	I believe I can work productively under continuous stress and pressure from work.
7.	I believe I can tolerate unexpected changes in business conditions.
8.	I can discover new ways to improve existing products.
9.	I can develop a working environment that encourages people to try out something new.

Source: Weber et al. (2009) and Chen et al. (1998).

In addition, a five-point Likert scale was used to measure the items of the construct ranged from 1 being “Strongly disagreed” to 5 being “Strongly agreed”. Weber, et al. (2009) and Chen et al. (1998) reported a high scale reliability of the surveys items with Cronbach’s alpha reliability coefficient at 0.924 and 0.90 respectively.

3.8.4 Measures for Perceived Desirability

PDE is operationalized as the level at which person considers entrepreneurial career as his or her desirable career option. The construct was measured using seven items adopted from Liñán (2008). These items are presented in Table 3.7.

Table 3.7
Measures for Perceived Desirability

No	Item
1.	A career as an entrepreneur is totally unattractive to me.
2.	I have serious doubts about ever starting my own business.
3.	I have very low feelings of ever starting a business.
4.	I am ready to do anything to be an entrepreneur.
5.	I will make every effort to start and run my own business.
6.	Being an entrepreneur would give me great satisfaction.
7.	My professional goal is to be an entrepreneur.

Source: Liñán (2008)

Accordingly, a five-point Likert scale was used to measure the items of the construct ranged from 1 being “Strongly disagreed” to 5 being “Strongly agreed”. However, Liñán (2008) reported the average reliability index at 0.84 using Cronbach alpha reliability.

3.8.5 Measures of Supportive Environment

Supportive environment can be operationalized as the combination of factors surrounding the business environment which play significant part in the formation and promotion of entrepreneurial career and entrepreneurial activities in a society. The scales used to measure supportive environment in the study were slightly adapted version used by Turker, Onvural, Kursunluoglu, and Pinar, (2005). In their study, Turker et al. (2005) developed their scales based on the scales of Parnell, Crandall and Menefee (1995), and modified some items of the existing scales. In the current study, some items in scale were modified in order to reflect the current area of the study (Nigeria) rather than the place of its origin (Turkish). However, the

second item in the original measures “My University provides the necessary knowledge and support about entrepreneurial career” was divided into two separate items to avoid double barrel question. Furthermore, items six and seven of the original measures “Taking loan from banks is quite difficult for graduate entrepreneurs” and “state laws are unfavourable for running a business” were modified to positive questions so as to tally with the other questions and to avoid misleading the respondents. Therefore, a scale with ten items was used to measure supportive environment dimension of this study as shown in Table 3.8.

Table 3.8
Measures of Supportive Environment

No	Item
1.	Entrepreneurship education in university encourages me to develop creative ideas for being an entrepreneur.
2.	My university provides the necessary knowledge about entrepreneurial career.
3.	My university provides the necessary support on entrepreneurial career.
4.	My university develops my entrepreneurial skills and abilities.
5.	In Nigeria, entrepreneurs are encouraged by private organizations.
6.	In Nigeria, entrepreneurs are encouraged by public organizations.
7.	In Nigeria, entrepreneurs are encouraged by non-governmental organizations.
8.	Nigerian economy provides many opportunities for entrepreneurs.
9.	Taking loans from banks is quite easier for graduate entrepreneurs in Nigeria.
10.	State laws (rules and regulations) are favourable for running a business in Nigeria.

Source: Turker et al. (2005).

Though, on the basis of the results of the empirical study conducted by Turker et al. (2005) the internal consistency of the items stood at 0.825.

Table 3.9
Summary of the Original Measures and their Sources

Variables	Dimensions	Items	Sources	Reliability Alpha value
Entrepreneurial career option	Unidimensional	12	Moy Vivienne et al., (2003), Theng and Boon (1996).	0.78
Entrepreneurship education	Multidimensional	12	Liñán (2008), Weber, et al., (2009).	0.858, 0.924.
Entrepreneurial Self-efficacy	Unidimensional	9	Chen et al. (1998), Weber, et al., (2009).	0.924
Perceived Desirability	Unidimensional	7	Liñán (2008)	0.84
Supportive Environment	Unidimensional	7	Turker, et al. (2005)	0.825

Source: Chen et al. (1998), Moy Vivienne et al. (2003), Liñán (2008), Turker et al. (2005), Weber et al. (2009).

3.9 Data Collection Method

Although there are several techniques of collecting data for survey research, questionnaires are often the most effective method for data collection particularly when the researcher identifies precisely how to measure the constructs under the study (Cavana et al., 2001; Sekaran & Bougie, 2013). Therefore, in this research work, questionnaire was found to be more suitable method for data collection due to its applicability and effectiveness in terms of cost and time. Moreover, questionnaire method of data collection was predominantly used in previous studies for its representativeness and reliability (Abdulai, 2015; Ahmad et al., 2014; Damaraju et al., 2010; Decker et al., 2012; Dohse & Walter, 2012; Gorondutse & Hilman, 2013;

Jiang & Park, 2012; Olakitan, 2014; Rae & Woodier-Harris, 2013; Sesen, 2013; Shehu & Mahmood, 2014).

The questionnaire forms were personally administered by the researcher with the help of the research assistants to the respondents. Personally administered method was adapted for its advantage to the researcher which allowed him to gather the completed responses within a shorted period of time and provided avenue for clarify any doubts the respondents might have concerning any item on a spot (Cavana et al., 2001). Furthermore, apart from being cost and time effective, personally administered questionnaires allowed the researcher to have the opportunity for introducing the research issue to the respondents and stimulated them to give their frank opinions or responses regarding the issue (Sekaran & Bougie, 2013). In addition, the research assistants were trained by the researcher on how to administer and retrieve the instrument for data collection. The completed questionnaire forms were collected back from the respondents by the researcher through the research assistants immediately after the completion. However, the responses obtained from these completed questionnaires formed the data for statistical analysis of the study.

3.9.1 Questionnaire Design

A structured questionnaire with close-ended likert scale questions was used for data collection in this study (see appendix A). Although, several studies from literature reviewed used different scaling methods to measure variables include; four, five, six, and seven point's likert scale. Previous studies argued that scaling method with a mid-point provide better and accurate results (Cavana et al., 2001; Zikmund et al.,

2010), and it enables respondents to comfortably show their opinion more precisely. Cavana et al., (2001) pointed out that better instruments ensure more accurate outcomes, which turns improves the scientific quality of the research. Hence, five point Likert scale was adapted for this study. In addition, there are evidences showing that previous studies used a five point Likert scale, among which include; Ahmad et al. (2014); Dennis, Hackert, Tokle &Vokurka (2011); Dohse &Walter (2012); Fatoki (2010); Fitzsimmons & Douglas (2011); Kim-Soon et al. (2013); Kuckertz & Wagner (2010); Linan et al. (2011); Nwankwo et al., (2012); Olarenwaju (2013); Sharma & Madan (2014).

The questionnaire that was used in this study consisted of six sections; section A to F. section A of the instrument consisted of 14 items regarding the dependent variable which is the entrepreneurial career option. Section B of the questionnaire has a total number of 16 items in respect of the two dimensions of the independent variable which is the entrepreneurship education. In section C of the questionnaire there are nine items regarding one of the mediating variable, the entrepreneurial self-efficacy. In addition, there are seven items for perceived desirability which is also considered as mediating variable in section D of the questionnaire. Section E of the questionnaire consisted of 10 items regarding supportive environment as a moderating variable. Meanwhile, section F of the questionnaire consisted of six items that covered the demographical information of the respondents (see appendix A).

3.9.2 Control of Measurement Error

Measurement error could be defined as extend to which the observe values do not represent the true values due to some bias in the measurement process. Most of the possible sources of measurement error include errors during data entry, failure of respondents to give correct information or inappropriateness of measurement (Hair et al., 2010; Kothari, 2004). However, there are always errors in measurement of attitudinal variables and hence the need to assess the measures developed for data collection (Cavana et al., 2001; Sekaran & Bougie, 2013).

According to Sekaran and Bougie (2013) to ensure that the measures developed are reasonably good the researcher should carry out item analysis of responses to the questions tapping the variables, and then the establishment of the reliability and validity for the measures. However, to minimize measurement errors in the study so many procedures were followed to establish the reliability and validity for the measures. Furthermore, reliability and validity for the measurement was confirmed in both pilot and main study, through content validity, discriminant and convergent validity.

3.10 Pilot Study and Preliminary Test

A pilot study according to Zikmund et al. (2010) is a process of carry out a small study that considers gathering data from small number of respondents but comparable to those that will be used in actual study as sample size. Gay, Mills and Airasian (2011) regarded pilot study as a trial in which small scale study is carried

out before the actual full scale study. It scrutinizes specific parts of the research to examine whether the designated procedures will work as intended. In addition, a pilot study is crucial in sanitizing questions and reducing the danger that the full study seriously faulted. It is carried out with the aim of achieving some objectives includes among others the validity and reliability test of instrument for data collection before actual full study.

The sample size for the pilot study is typically small, constituting from fifteen to thirty respondents, although it could be more than that if the study comprises several phases (Malhotra, 2008). In this study, a pilot study was carried out at Federal University Dutse, Nigeria using 70 questionnaires distributed to the final year students as the respondents. However, a total of 52 questionnaires were filled and returned which were used to test the validity and internal consistent reliability of the data collection's instrument of the study. The pilot test was conducted using PLS-SEM measurement model to ascertain the validity and reliability of the measurement instrument of the study.

3.10.1 Validity of the Measurement

Validity is view as the correctness of a measure or the degree to which the score of a measure really characterizes the conception of the researcher's interest (Zikmund et al., 2010). Several validity test are commonly used to check the goodness of the measures which according to Sekaran and Bougie (2013) are grouped into three general headlines: content validity, criterion-related validity, and construct validity. Content validity certifies that the instrument contains adequate and representative set

of items that symbolize the concept of interest of research. Hair et al. (2010) and Sekaran & Bougie, (2013) suggest a panel of experts to evaluate the content validity of the instrument. Accordingly, the survey instrument used for data collection in this study was validated by three experts from Universiti Utara Malaysia and two experts from Abubakar Tafawa Balewa University Bauchi to ensure both the face and content validity of the instrument. Ultimately, the observations and corrections made by these experts were incorporated in the original work and upgraded its standard and accuracy.

In addition to the face and content validity, convergent validity which is emphasis that “a set of indicators represent one and the same underlying construct” (Henseler et al, 2009), was examined using the average variance extracted (AVE) criterion (Fornell & Larcker, 1981). Accordingly, an AVE value of 0.5 and above represents adequate and acceptable convergent validity (Hair et al., 2011; Henseler et al., 2009). Consequently, an AVE value of 0.50 indicates that half of the variance of the manifest variable is explained by the latent variable on average (Henseler et al, 2009). Hence, the results from the pilot study were used to test convergent validity among the latent variables as presented in Table 3.10.

Table 3.10
Test for convergent validity from the Pilot Study

Variable	AVE
Entrepreneurial career option	0.52
Entrepreneurial knowledge	0.50
Entrepreneurial skill	0.51
Entrepreneurial Self-efficacy	0.59
Perceived Desirability	0.54
Supportive Environment	0.55

As presented in table 3.10 the AVEs of the latent variable range from 0.50 to 0.55. This shows that all the AVEs are within the established rule of thumb of 0.5 and above as adequate and acceptable value (Hair et al., 2011). The result indicates that all latent variables should be able explain a significant portion of each indicator's variance, typically at minimum 50%.

Finally, discriminant validity was also assessed, which indicates the extent to which measurement scale items are distinct from items of other conceptually distinct latent constructs (Hair et al., 2010). Using the data from the pilot study, discriminant validity was assessed by comparing the square root of AVE of each latent variable with the correlations of other latent variables in the correlation matrix. Accordingly, discriminant validity can be established once the indicator's outer loading of a latent construct is higher than its cross loadings in relation with other latent constructs (Chin, 1998; Hair et al., 2011). Table 3.11 represents the result of square roots of AVE of the latent variable in the study.

Table 3.11
The result of Square Roots of Average Variance Extracted

Latent variable	ECO	EEK	EES	ESE	PDE	SEN
ECO	.719					
EEK	.510	.712				
EES	.441	.534	.721			
ESE	.558	.552	.701	.711		
PDE	.514	.476	.564	.643	.723	
SEN	.391	.483	.378	.338	.381	.712

Table 3.11 displays the result of square roots of AVE of the latent variable in relation to other latent variables in the study. The result shows the square roots of AVE in bold is higher than the correlations of other latent variables within the same row and column. Therefore, using Chin (1998) criterion discriminant validity can be established once the indicator's outer loading on a latent construct is higher than its cross loadings in relation with other latent constructs. Thus, result shows the non-existence of discriminant validity problem in this study.

3.10.2 Reliability of the Measurement

The reliability of a measure specifies the magnitude to which the measuring instrument is free from error and therefore satisfies consistent measurement over a period of time and through several items in the instrument (Cavana et al., 2001; Sekaran & Bougie, 2013). In addition, the reliability index shows the consistency and steadiness at which the instrument measures the variables and assesses the extent of goodness of the measure.

Different types of reliability test are available for a researcher; the largely widespread technique used by several researchers is internal consistency reliability (Hair et al., 2010; Kothari, 2004). Accordingly, the most common test of inter-item consistency reliability includes; composite reliability and Cronbach's coefficient alpha which were used for multipoint-scaled (Cavana et al., 2001). Therefore, in this study a pilot study was carried out to measure internal consistency reliability of the items using composite reliability and Cronbach's coefficient alpha scores as presented in Table 3.12.

Table 3.12
Composite reliability and Cronbach's Alpha Index for each Variable

Variable	Composite Reliability	Cronbach's Alpha
Entrepreneurial career option	0.94	0.93
Entrepreneurial knowledge	0.89	0.86
Entrepreneurial skill	0.84	0.80
Entrepreneurial Self-efficacy	0.90	0.87
Perceived Desirability	0.84	0.78
Supportive Environment	0.84	0.80

The result above showed the composite reliability and Cronbach Alpha scores range from 0.78 to 0.94 for the constructs are all within the acceptable limits (Hair et al., 2003). Joseph, William, Barry and Rolph (2010) recommended Cronbach Alpha 0.70 and above as adequate in conducting empirical study. The validity of the measuring instrument is the level at which the research instrument measures what it is intended to be measured and not something else, while the reliability measure shows the extent at which the research instrument is free from error, and hence consistent and steady across various items over a period of time (Sekaran & Bougie, 2013). Hence the result indicated that the instrument is valid and reliable for data collection of the study.

3.11 Data Analysis Method

3.11.1 Descriptive Statistics

Descriptive statistics is perhaps the most basic statistical tool use to describe the basic characteristics of data in a scientific research. According to Zikmund et al., (2010) descriptive statistics summarize responses huge number of respondents in a few simple statistics which are used for inferences reference about features of the entire population of a study. Sekaran and Bougie (2013) suggest some initial stages need to be completed to certify that the data are accurate, complete, and suitable for further analysis before the researcher starts analysing the data to test hypotheses. Based on these preliminary steps, further detailed analyses were carried out to test the goodness of the data.

In this study, different descriptive statistics of each variable were analysed using measures of central tendency such as mean, and dispersion including range, variance and standard deviation. In addition, frequencies, percentages and other relevant charts were used to compute the normality of the data. However, to attain internal consistent reliability in data analysis the study made use of SPSS and Smart PLS software in the process.

3.11.2 Hypotheses Testing and Data Analysis

This section discussed on inferential statistics tools used to analyses the data and test the hypotheses of the study. With the advancement in spreadsheet applications, commercialized statistical software packages remain very popular among researchers

(Zikmund et al., 2010). The most frequently used general statistical packages include SAS, SPSS, MINITAB, Excel, Smart-PLS, STATPAK, etc. However, SPSS is the most frequently used by academia, professional and social science researchers (Zikmund et al., 2010). Social science researchers have traditionally used SPSS more than any other statistical software tool.

In this study therefore, in addition to SPSS, the Partial Least Square and Structural Equation Modelling (PLS-SEM) approach was used in the analysis of the data collected for the study. More specifically, Smart-PLS (Ringle et al., 2005) and PLS-Graph software applications were used for data analysis and results presentation respectively. Both SPSS and PLS-SEM have been viewed as more user-friendly and provided option of using drop-down menus to conduct analysis rather than writing computer code (Zikmund et al., 2010). In addition, PLS-SEM approach measures a complete model rather than just relationship between variables. Therefore, in this study both SPSS and PLS-SEM were used to carry out data analysis and hypotheses testing for their simplicity, friendliness and completeness.

3.12 Summary of the Chapter

The chapter presented the research methodology of the study. It began with research design, the population of the study which consisted of a total 36,798 final year university students from the northern Nigeria as well as sample and sampling technique of the study. In addition, the chapter presented the data collection procedure as well as operationalization and measures of the variables in the study. Data collection method and the results of the pilot study were also presented in the

chapter. Finally, the chapter presented the method of data analysis adapted in the study where both descriptive and inferential statistics were employed to describe the variables and test the hypotheses of the the study.



CHAPTER FOUR

ANALYSIS AND FINDINGS

4.1 Introduction

The main objective of this chapter is to presents the results obtained from the data analysis and provides relevant discussion in relation to the outcomes of the study. Both descriptive and inferential statistics were employed in carried out the data analyses of this study. Descriptive analysis was applied to describe the characteristics of the variables and demographic features for the respondents. The chapter presents the data collection process and issues related to survey responses, non-response bias, data cleaning, missing values and outliers. Using the PLS-SEM approach, the chapter presents the measurement model to test the goodness of the measuring instrument using construct validity and internal consistent reliability analysis. In addition, the chapter presents empirical results of the hypotheses tested using structural model and other inferential statistics in relations to the objectives of the study.

4.2 Data Cleaning

Data cleaning is an essential aspect for conducting any meaningful research in general and multivariate analysis in particular (Pallant, 2011). Equally, the quality and meaningfulness of outcomes of the research heavily depends on the quality of the data as a result of data screening and editing (Hair et al., 2010). Henceforth, as

data cleaning process the missing data, outliers, multicollinearity and normality were thoroughly checked and treated as such.

4.2.1 Missing Data

Missing data is described as the situation where valid values on one or more variables is not available for analysis (Hair et al. 2010; Joseph et al., 2010), are a fact of existence in multivariate analysis. According to Joseph et al. (2010) one of the major researcher's challenges is to address the issues raised by missing data that affect the generalizability of the results. To this extent several remedies were suggested in order to address the problem of missing data by many authors (Pallant, 2011; Tabachnich & FiddeI, 2007; Joseph et al. 2010). One of the most widely used methods is the missing value replacement using mean substitution (Joseph et al., 2010). Here, mean substitution replaces the missing values for a variable with the mean value of that variable calculated from all valid responses of the variable.

In view of the negative consequence of missing data in multivariate analysis, the researcher put several efforts in reducing the size since it cannot totally avoided (Tabachnich & FiddeI, 2007; Joseph et al., 2010). On the receipt of the questionnaires, a pre-clearing was made before coding of the data for analysis. The researcher checked through each questionnaire to ensure that it was duly completed by the respondents. However, any questionnaire found with a lot of unfilled questions is considered invalid and removed from the sample (Joseph et al., 2010; Pallant, 2011). In addition, the researcher followed up the coded data step by step to assess the extent of the missing data and its pattern. As soon as the missing value

was detected, the researcher refers back to the specified questionnaire representing the data to trace whether the missing value was as the result of the coding process and replace as such.

Furthermore, descriptive statistics were conducted using SPSS version 22 to detect and replace missing data (see Appendix J & K). The result revealed that out of 26,722 data cases only 30 data cases were randomly missed, accounted for 0.11% of the total data cases. Specifically, entrepreneurial career option has nine missing values; entrepreneurial skills with six missing values; perceived desirability and supportive environment are having five and four missing values respectively; while entrepreneurial knowledge and entrepreneurial self-efficacy have three missing values each. . Even though, no generally acceptable level of missing values in a data set, nevertheless, 5% or less is considered non-significant by many researchers (Hair et al., 2010; Sekaran, 2003; Tabachnick & Fidell, 2007). In addition, the researcher used mean substitution to replace the identified missing values (Joseph et al., 2010; Tabachnick & Fidell, 2007). Table 4.1 shows the total; frequency and percentages of missing values across the individual variables of the present study (see Appendix J for SPSS outputs).

Table 4.1
Frequency Distribution of the Missing values

Latent variables	Frequency
Entrepreneurial career option	9
Entrepreneurial knowledge	3
Entrepreneurial skills	6
Entrepreneurial self-efficacy	3
Perceived desirability	5
Supportive environment	4
Total	30

4.2.2 Assessment of Outliers

According to Byrne (2010), outliers are described as those observations that are significantly deviated from all other cases in a given set of data. Similarly, Joseph et al., (2010) suggested that outliers can be detected either from univariate or multivariate perspective depends on the number of constructs considered in the study. In addition, researchers employ as many of these outliers detective perspectives as much as possible, searching for a reliable pattern across perspective to detect outliers (Hair et al., 2010; Joseph et al., 2010). Tabachnick and Fidell (2007) pointed out that the existences of univariate outliers can be identified by means of standardized values of variable known as z-score. Subsequently, in univariate assessment of outliers any standardized variable values (z-scores) exceeding ± 3.29 ($p < .001$ sig. level) should be considered as outlier and be treated as such (Tabachnick & Fidell, 2007; Hair et al., 2010).

Using Hair et al., (2010) and Tabachnick and Fidell's (2007) benchmark for detecting univariate outliers (z-scores within ± 3.29 , $p < .001$ sig. level). A total of 73 cases of univariate outliers were identified and treated as such. In addition, Mahalanobis distance was used examined multivariate outliers in this study. The study considered all cases with Mahalanobis distance exceeding 55 ($N - 1$) at 0.01 degree of freedom as outliers and treated as such. However, no case was reported with Mahalanobis distance exceeding the predetermined limit of 55 at 0.01 level of degree of freedom. Furthermore, the study used Hair et al., (2010) recommendation standardized variable values not exceeding of ± 4.0 for sample size larger than 80. Here also, none of the value exceeded the set limit, so therefore this study has not

detected any case of multivariate outliers. Therefore, due to the issue of univariate and multivariate outliers a total of 359 responses were finally retained for the analysis, as shown in Table 4.2.

Table 4.2
Distribution and Response Rate of the Questionnaires

Item	Frequency	Percentage (%)
Distributed questionnaires	758	100
Returned questionnaires	432	56.99
Unreturned questionnaires	326	43.01
Returned and usable questionnaires	359	47.36
Returned and excluded questionnaires	73	9.63

The table 4.2 above represents the distribution and response rate for the instrument of data collection in the study. From the table a total of 758 questionnaire forms were distributed to the respondents and a total 432 questionnaire forms were collected back from the respondents. However, the table indicates a total of 326 questionnaire forms were not returned. In addition, a total number of 73 responses were excluded from the analysis due to issues of missing values, univariate and multivariate outliers. The removals these responses from the data are critical due the fact that they do not represent the sample (Hair et al., 2010).

4.2.3 Normality Test

PLS-SEM is a non-parametric statistical instrument and therefore it does not necessarily involve the distribution of the data normally (Hair et al., 2014). Nevertheless, it is essential to ensure that the distribution is not far away from normal; as extremely non-normal distributions demonstrate difficulty in the measurement of the parameter's significances (Hair, Ringle & Sarteedt, 2011; Hair et

al., 2014). In addition, extremely non normal distribution inflates standard errors obtained from bootstrapping and thus reduce the chances that some relations be considered as significant (Hair et al., 2011; Henseler, et al., 2009). Accordingly, Hair et al. (2014) suggest that normal distributions are desirable in multivariate analysis, particularly when operating with CB-SEM. Furthermore, Hair, Sarstedt, Ringle and Mena (2012) recommended that normality test need to be considered even in PLS-SEM analysis because extremely skewed or kurtosis data can inflate the bootstrapped standard error estimations and consequently devalue the statistical significance of the path coefficients (Chernick, 2008; Ringle, Sarstedt & Straub, 2012). Based on these reasons, therefore it is considered worthwhile to assess the distribution of the data.

In general, normality test is conducted either statistically or graphically (Hair et al., 2010; Mooi & Sarstedr, 2011). The basic mechanisms for statistical test of normality for a data distribution includes: skewness and kurtosis, Kolmogorov-Smirnov test and Shapiro-Wilk test among others (Mooi & Sarstedr, 2011; Tabachnick & Fidell, 2013). The Kolmogorov-Smirnov test and Shapiro-Wilk test are designed to test normality by comparing the data to a normal distribution with the same mean and standard deviation (Mooi & Sarstedr, 2011). In addition, skewness and kurtosis test measures the extent in which the data deviate from normality (Hair et al., 2010; Tabachnick & Fidell, 2013). Nonetheless, Tabachnick and Fidell (2013) argued Skewness and Kurtosis tests cannot ensure the fundamental difference in the analysis when the sample size is more than 200. On the basis of this both the two methods were employed to assess the normality of the distribution.

This study assessed the potential abnormality and nature of the distributions using statistical method of skewness and kurtosis test (Hair et al., 2010; Kline, 2011; Tabachnick & Fidell, 2013). Accordingly, Hair et al. (2010) argued that skewness threshold should always be less than 2 (< 2) and kurtosis threshold should always be less than 7 (< 7). Similarly, Kline (2011) stated that the absolute value of Skewness more than 3 and Kurtosis index more than 10 may probably indicate an abnormality; and index greater than 20 may possibly assume a more severe problem of non-normality. Subsequently, the result of normality test indicated that the distribution of the data is normal because the values (z-scores) of both the Skewness and Kurtosis for the entire items are within the accepted range of less than 2 and less than 7 respectively (see Appendix Q). Table 4.3 shows the results the statistical tests of skewness and kurtosis of the distribution.

Table 4.3
Results of Test of Skewness and Kurtosis

Construct	n	Mean Statistic	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Entrepreneurial career option	359	4.18	-.640	.129	.440	.257
Entrepreneurial knowledge	359	3.95	-.453	.129	-.115	.257
Entrepreneurial skills	359	3.90	-.360	.129	-.103	.257
Entrepreneurial self-efficacy	359	4.20	-.337	.129	-.285	.257
Perceived desirability	359	4.26	-.538	.129	-.337	.257
Supportive environment	359	3.61	-.684	.129	.579	.257
Valid n (list wise)	359					

In addition, the study also used graphical method in assessing the normality of the distribution of the data. Accordingly, Field (2009) emphasized that if the sample size is large enough, it is more appropriate to assess the normality graphically rather than the significance of the skewness and kurtosis statistics. Furthermore, a large sample size reduces the standard errors, which can inflate the significance of the skewness and kurtosis statistics (Field, 2009; Hair et al., 2010; Kline, 2011; Tabachnick & Fidell, 2013). The figure 4.1 shows the histogram representing the distribution of the data.



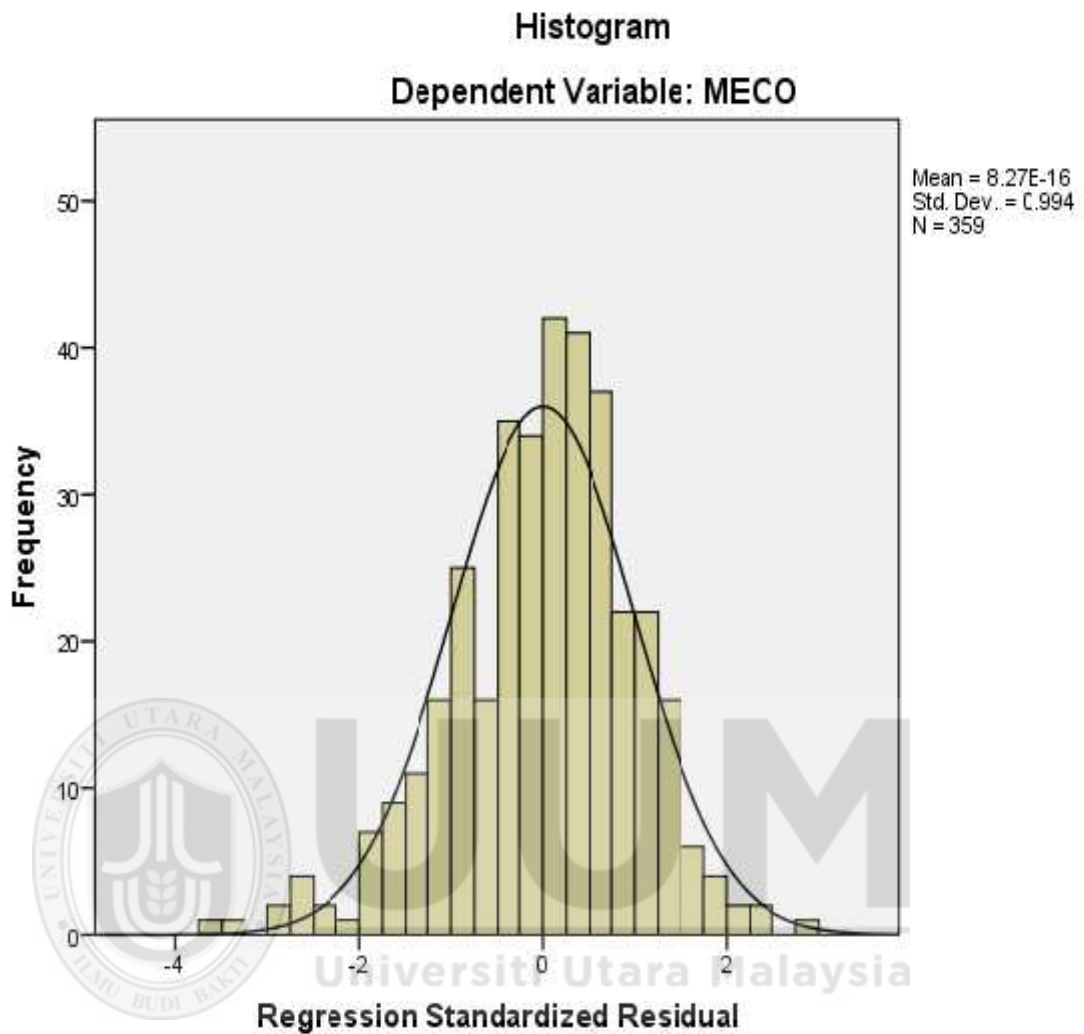


Figure 4.1
Histogram representing the distribution of the data

In graphical method, normality is generally determined from the shape of the histogram residual plots. The shape of the residual plots represents the data distribution of an individual continuous variable and its correspondent to normal distribution. The assumption is a normal distribution should be represented by a bell shape diagram (Tabachnick & Fidell, 2007). In other words, the shape of the histogram residual plots should resemble a bell shape in order the distribution to be

normal. Accordingly, if this assumption is met, the data is said to be normally and independently distributed (Tabachnick & Fidell, 2007). Looking at the figure 4.1, the shape of the histogram residual plots perfectly resembled bell shape and the entire bars are closed to the normal curve; hence, the data distribution is normal.

4.2.4 Multicollinearity

Multicollinearity is described as a circumstance in which two or more exogenous latent constructs turn out to be highly interrelated. Sekaran and Bougie (2010) described multicollinearity as a phenomenon in which two or more independent variables in a multiple regression model are extremely related. The multiple regression technique assumes that no single independent variable has a perfect linear relationship with one another (Tabachnick & Fidell, 2007). The presence of multicollinearity in the multifarious of the exogenous latent variables can substantively interfere with the estimates of regression coefficients and their statistical implications (Hair et al., 2010; Sekaran & Bougie 2010). Specifically, multicollinearity's problematic occurs when latent variables are highly correlated. Accordingly, Hair et al. (2010) described the value of two or more independent variables as highly correlated at 0.9 and above.

To assess whether multicollinearity exists among the independent variables, various methods are accessible for a researcher (Peng & Lai, 2012; Tabachnick & Fidell, 2007). The most commonly used methods of detecting multicollinearity among exogenous latent constructs includes; Pearson correlation, Variance Inflated Factor (VIF), tolerance index and condition index (Hair et al., 2010, Peng & Lai, 2012;

Tabachnick & Fidell, 2007). However, Hair et al. (2010) recommended the use of tolerance index and VIF in determining multicollinearity among independent variables.

In this study, Pearson correlation matrix of the independent variables was used to test whether there is high correlation among the independent variables. Accordingly, Hair et al. (2010) suggest the threshold of 0.9 and above for multicollinearity to occur among the independent variables. In addition, Pallant (2010) recommend the correlation value of 0.7 and above as the threshold multicollinearity among independent variables. In this case, the result of the Pearson correlation (See appendix M) indicated that none of the independent variable is highly correlated with any other independent variable.

Table 4.4
Correlation matrix of the Exogenous Latent Variable

Latent Variable	1	2	3	4
Entrepreneurial Knowledge	1			
Entrepreneurial skills	.556	1		
Entrepreneurial self-efficacy	.436	.574	1	
Perceived desirability	.327	.334	.431	1

The result in table 4.4 revealed that the correlations between the independent variables were adequately below the suggested threshold values of .90 or more (Hair et al., 2010) and 0.7 and above (Pallant, 2010). This suggests that the latent constructs are not highly interrelated or extremely correlated. Therefore, multicollinearity problem does not exist among the independent variables in this study. Furthermore, multicollinearity was tested using tolerance value and VIF as

shown in table 4.5. Accordingly, Hair et al. (2010) recommend the use of tolerance value and VIF as the most important and reliable means for testing multicollinearity among the exogenous latent variables.

Table 4.5
Collinearity statistics for Tolerance and VIF

Independent Variables	Collinearity statistics	
	Tolerance	VIF
Entrepreneurial Knowledge	.598	1.673
Entrepreneurial skills	.553	1.809
Entrepreneurial self-efficacy	.597	1.676
Perceived desirability	.788	1.270

From table 4.5, the tolerance value ranges between 0.553 and .788 substantially greater than the threshold value of 0.1 (Hair et al., 2010) and VIF ranges between 1.270 and 1.809 sufficiently below the threshold value of 5 and above (Hair, Ringle & Sarstedt 2011). Consequently, tolerance index and VIF values for the exogenous latent constructs indicated that none of the variables are extremely interrelated with one another. Therefore, the researcher concludes that there is no controversy of multicollinearity between the independent variables of the study.

4.3 Characteristics of the Respondents

The descriptive analysis in table 4.6 below discloses the demographic profile of the respondents in the sample of the study. The characteristics of the respondents considered in the study include demographic features such as age, gender, study area, parents/closed related self-employed and occupational experience (See Table 4.6).

Table 4.6
Profile of the Respondents

Demographic variable	Category	Frequency	Percentage (%)
Age	18-29	297	82.73
	30-39	52	14.48
	40-49	8	2.23
	50 & above	2	0.56
Gender	Male	237	66.02
	Female	122	33.98
Area of study	Business	165	45.96
	Agriculture	82	22.84
	Engineering	40	11.14
	Technology	72	20.06
Parents self-employed	Yes	233	64.90
	No	126	35.10
Closed relative self-employed	Yes	252	70.20
	No	107	29.80
Occupational experience	Self-employed	82	22.84
	Civil servant	55	15.32
	Working for others	39	10.87
	Apprenticeship	38	10.58
	Never employed	145	40.39

The descriptive analysis in table 4.6 reveals that majority of the respondents (297) representing 82.73% of total respondents were at the age bracket between 18-29 years, while 14.48% representing 52 respondents were between 30-39 years, 8 respondents representing 2.23% were between 40-49 years and only 2 respondents representing 0.56% were fall at the age group of 50 years and above. As regards to the gender, the table shows that 237 respondents representing 66.02% of the total responses were male while their female counterpart accounted for 33.98% of the responses representing 122 respondents. This clearly pointed out that the majority of the students in the Nigerian universities are between the age brackets of 18-29 years

and followed by those within the age group of 30-39 years, while only few respondents (10) are aged 40 and above.

Regarding the subject area of study, the table indicates that the majority of the respondents consisted of 165 respondents representing 45.96% of the total responses were business students. In addition, the table reveals that the second category of the participants were the students of agriculture constituted 82 respondents which represent 22.84% of the total responses in the sample. Followed by students of technology with 72 respondents and engineering with 40 respondents representing 20.06% and 11.14% of the total responses respectively. The descriptive statistics also shows that 233 respondents representing 64.90% of the total responses in the sample indicated that their parents were self-employed, while 35.10% of the respondents amounted to 126 responses were of the view that their parents were not self-employed.

Similarly, with regard to whether closed relative self-employed, 70.20% of total respondents constituted of 252 responses were on the opinion of having closed relative self-employed while 107 respondents represent 29.80% of the total responses were on the opinion that they do not have any closed relative been self-employed. In addition, the table reveals that majority of the respondents were never-employed, constituted about 40.39% of the total responses in the sample represent 145 respondents. Followed by self-employed constituted of 88 respondents signified 22.84% of the total responses in the sample, while 52 respondents were civil servants represent 15.32% of the total respondents. The table also indicates 39 respondents

were working for others while 38 respondents were on apprenticeship represent 10.87% and 10.58% respectively. Based on the above descriptive analysis, it can be established that the respondents offer sufficient variance for the study of this nature in terms of age, gender, area of specialization, parental occupational background and occupational experiences.

4.4 Test of Non Response Bias

Non-response bias essentially characterized the failure to obtain relevant information from the respondents (Berg, 2002; Churchill & Iacobucci, 2004), it occurs as the results of the inability to contact the respondents and or the refusal of the respondents to participate in the survey (Singer, 2006). Accordingly, Armstrong and Overton (1977) describe non-response bias as errors occur from how those responded differ from those who do not respond in the survey. Consequently, non-response bias can limit the generalizability of the sample to the entire population.

In this regard, Wilcox et al. (1994) suggest two main ways a researcher may consider to address the problem of non-response bias, namely; (1) the development of measures to reduce or avoid the error and, (2) the development of measures to assess the extent of error in the final survey results. Similarly, Churchill and Iacobucci (2004) propose three general approaches to address the non-response bias problem, namely; to increase the early response rate, to reduce the effect of response refusal through follow-up, and to infer the collected data. Furthermore, based on the simple notion that the respondents who respond less willingly are more like non respondents (Armstrong & Overton, 1977), hence the comparison of early and late respondents

has been widely adopted in many survey researches to address the issues of non-response bias (e.g. Diamantopoulos & Sigauw, 2006; Low, 2000; Morgan et al., 2004; Peck & Wiggins, 2006; Wang & Ahmed, 2004).

In this study, extrapolation technique by Armstrong and Overton (1977) was adopted to statistically compare factors such as demographics, scales of independent and dependent variables (Churchill & Iacobucci, 2004; Peck & Wiggins, 2006). Consequently, the non-response bias is often by comparing the mean and standard deviation for early and late response in the distribution. In this regard, the study categorised the respondents into two independent samples based on the time responded to the survey questionnaires, namely; early responses and late responses. The early responses were those respondents that filled and returned the survey questionnaires within the first eight weeks of the data collection process, that was from 12th April, 2016 to 10th June, 2016. While, the late responses were those respondents that filled and returned the survey questionnaires within the last eight weeks of the data collection period, ranged from 11th June, 2016 to 4th August, 2016. Table 4.7 shows the results for the test of non-response bias.

Table 4.7
Group Descriptive Statistics for Early and Late Respondents

Constructs	Response Bias	n	Mean	Standard Deviation	Std. Mean Error	t-value	Sig.
ECO	Early response	185	3.97	.643	.043	-1.24	.73
	Late response	174	4.06	.716	.050		
EEK	Early response	185	3.89	.603	.040	1.92	.07
	Late response	174	3.77	.664	.046		
EES	Early response	185	3.75	.622	.042	-1.28	.90
	Late response	174	3.83	.644	.045		
ESE	Early response	185	3.99	.621	.042	-2.32	.43
	Late response	174	4.13	.608	.042		
PDE	Early response	185	4.15	.660	.044	.84	.44
	Late response	174	4.09	.699	.048		
SEN	Early response	185	3.59	.605	.041	2.45	.00
	Late response	174	3.42	.766	.053		

Note: ECO = Entrepreneurial Career Option, EEK = Entrepreneurial Knowledge, EES = Entrepreneurial Skills, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability, SEN = Supportive Environment.

The results of the independent t-test as presented in table 4.7 indicates no substantial variance between the group mean and standard deviation for early respondents and late respondents in the survey. The t-test result reveals that there is no significant difference between early responses and late responses based on the items in entrepreneurial career option; entrepreneurial knowledge; entrepreneurial skills; entrepreneurial self-efficacy; perceived desirability; and supportive environment in regard to their means and standard deviations. Though, the result indicates the items are slightly varies statistically, but differences are relatively small and insignificant which have no effect on the entire results.

Furthermore, the study applied Levene's test for equality of variance to assess the extent of variance between the two groups namely; early respondents and late respondents as used in other previous studies (e.g. Ahmed et al., 2010; Gerba, 2012; Gorondutse & Hilman, 2013; Kunday & Çakir, 2014; Naala & Rosli, 2016). Here, the two-tailed equality of means t-test was used to assess the extent of variance between the groups as shown in table 4.8. The result of Levene's test demonstrates the difference between the early response group and the late response group in relation to the ECO, EEK, EES, PDE and SEN. The two-tailed test result shows that there is no significant difference between the early response group and late response group in the study. This further testified the absence of variance between the two groups. Hence, the study has justified the absence of non-response bias.

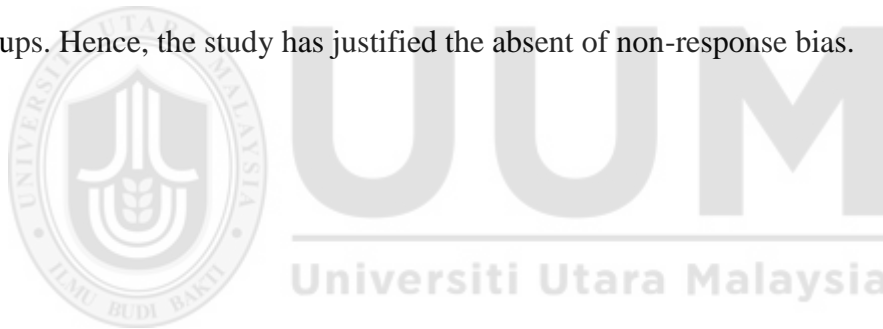


Table 4.8

Independent Samples t-test for Equality of Means Levens's Test for Equality of Variance

Constructs		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (two-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ECO	Equal variances assumed	0.12	.731	-1.24	429	.217	-.081	.066	-.2097	.0477
	Equal variances not assumed			-1.23	417.27	.218	-.081	.066	-.2102	.0481
EEK	Equal variances assumed	1.41	.165	1.92	429	.055	.117	.061	-.0028	.2370
	Equal variances not assumed			1.92	418.77	.056	.117	.061	-.0031	.2374
EES	Equal variances assumed	0.02	.897	-1.28	429	.200	-.078	.061	-.1981	.0416
	Equal variances not assumed			-1.28	425.20	.201	-.078	.061	-.1982	.0417
ESE	Equal variances assumed	0.62	.431	-2.32	429	.021	-.137	.059	-.2537	-.0207
	Equal variances not assumed			-2.32	428.33	.021	-.137	.059	-.2536	-.0208
PDE	Equal variances assumed	0.59	.442	.840	429	.401	.055	.066	-.0736	.1836
	Equal variances not assumed			.839	423.07	.402	.055	.066	-.0739	.1839
SEN	Equal variances assumed	1.38	.110	2.45	429	.015	.162	.066	.0320	.2927
	Equal variances not assumed			2.43	395.58	.016	.162	.067	.0310	.2936

Note: ECO = Entrepreneurial Career Option, EEK = Entrepreneurial Knowledge, EES = Entrepreneurial Skills, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability, SEN = Supportive Environment.

4.5 Descriptive Analysis of Constructs

The study used both means and standard deviations to describe the latent variables. Accordingly, Sekaran and Bougie (2010) argue that descriptive statistics such as means, standard deviations, and variances are considered useful for various studies when obtained from interval-scaled. In addition, Joseph et al. (2010) emphasized that the most commonly used measures for description of constructs in research are means and standard deviations. The mean is described as the average value in a set of data (Sekaran & Bougie, 2010); whereas, standard deviation measures dispersion and provides an index of inconsistency in the data set and it is the square root of variance (Joseph et al., 2010; Sekaran & Bougie, 2010). Furthermore, Nik, Jantan and Taib's (2010), suggest three level of mean scores for interval and ratio scale which includes; mean scores of less than 2.33 indicate low level score, and mean scores from 2.33 to 3.67 indicate moderate level score while any mean scores from 3.67 and above indicate high level score. The descriptive analysis of the latent constructs using means and standard deviations are shown in table 4.9 - 4.15 below (see Appendix L).

4.5.1 Mean and Standard deviation of Entrepreneurial Career Option

Table 4.9

Mean and Standard deviation of Entrepreneurial Career Option

No	Item	Mean	SD
1.	I prefer entrepreneurial career to increase my personal income	4.16	1.15
2.	I prefer entrepreneurial career to increase my opportunity	4.03	1.12
3.	I prefer entrepreneurial career to acquire personal wealth	4.00	1.10
4.	I prefer entrepreneurial career to be my own boss	4.06	1.20
5.	I prefer entrepreneurial career to become self-employed	4.30	1.00
6.	I prefer entrepreneurial career to control my own destiny	3.57	1.23
7.	I prefer entrepreneurial career to acquire personal security	3.58	1.18
8.	I prefer entrepreneurial career to enjoy my personal excitement	3.79	1.06
9.	I prefer entrepreneurial career to meet business challenges	3.93	0.98
10.	I prefer entrepreneurial career to prove I can do it	3.99	1.09
11.	I prefer entrepreneurial career to recognize business opportunities	4.16	0.95
12.	I prefer entrepreneurial career to exploit business opportunities	4.09	1.08
13.	I prefer entrepreneurial career to develop new ideas	4.23	0.94
14.	I prefer entrepreneurial career to develop new innovations and initiatives	4.30	0.98
	Entrepreneurial Career Option (ECO)	4.01	1.08

The table 4.9 above presented the mean and standard deviation of fourteen items representing entrepreneurial career option (ECO). In line with Nik et al. (2010), eleven items out fourteen recorded high level of mean scores in the distribution, while the remaining three items showed moderate mean scores. Item number five “I

prefer entrepreneurial career to become self-employed” and item number fourteen “I prefer entrepreneurial career to develop new innovations and initiatives” recorded the highest mean scores of 4.30 (M = 4.30) concurrently and the standard deviation of 1.00 (SD = 1.00) and 0.98 (SD = 0.98) respectively. The result shows that preference for self-employment and the need to develop new innovations and initiatives are the major determining factors for ECO.

4.5.2 Mean and Standard deviation of Entrepreneurial knowledge

Table 4.10
Mean and Standard deviation of Entrepreneurial knowledge

No	Item	Mean	SD
1.	I understand better the attitudes of entrepreneurs	3.74	0.89
2.	I understand better the entrepreneurial values	3.97	0.84
3.	I understand better the motivation of entrepreneurs	4.03	0.86
4.	I understand better the steps that one has to take to establishing a new business	3.97	0.94
5.	I know everything that is needed to start a new business	3.57	1.17
6.	I learn the practical managerial skills for establishing a new business	3.72	1.01
7.	I understand better the networking skills for establishing a new business	3.62	0.97
8.	I learn the skills to recognize new business ideas	4.01	0.91
	Entrepreneurial knowledge (EEK)	3.83	0.95

The mean and standard deviation of eight items representing entrepreneurial knowledge are shown in table 4.10 above. The table revealed that six out of the eight items representing entrepreneurial knowledge are having high level mean score and the remaining two items are having moderate level of mean score. In addition, item three “I understand better the motivation of entrepreneurs” is the item with the highest mean score in the distribution (M = 4.03, SD = 0.86), while item five in the

distribution “I know everything that is needed to start a new business” recorded the lowest mean score in the range ($M = 3.57$, $SD = 1.17$). In essence, understanding better the motivational factors for entrepreneurial activities is the key aspect of entrepreneurial knowledge.

4.5.3 Mean and Standard deviation of Entrepreneurial skills

Table 4.11
Mean and Standard deviation of Entrepreneurial skills

No	Item	Mean	SD
1.	I can easily recognize business opportunities around	3.93	0.92
2.	I have the creativity to establish my own business	4.05	0.89
3.	I have the problem solving skills to manage my own business	3.51	1.08
4.	I have the leadership skills to manage my own business	4.00	0.88
5.	I have the communication skills to manage my own business	4.03	0.93
6.	I can easily develop new products and services	3.72	1.01
7.	I have the networking skills to establish my business	3.61	1.00
8.	I have the professional contacts to establish my business	3.49	1.10
	Entrepreneurial skills (EES)	3.79	0.98

In table 4.11 above, the mean and standard deviation of eight items signifying entrepreneurial skills were reported. The table reported that five out of the eight items recorded high level of mean score ranges from 3.72 to 4.05, whereas the remaining three items recorded moderate mean scores. The result also indicated that the creativity to establish one’s own business recorded the highest mean score ($M = 4.05$, $SD = 0.89$), whereas the problem solving skills to manage one’s own business recorded the lowest mean score in the distribution ($M = 3.51$, $SD = 1.08$). This

shows that the creativity to establish one's own business is the main characteristic demonstrating entrepreneurial skills.

4.5.4 Mean and Standard deviation of Entrepreneurial Self-efficacy

Table 4.12

Mean and Standard deviation of Entrepreneurial Self-efficacy

No	Item	Mean	SD
1.	I believe I could successfully start my own business	4.28	0.90
2.	I believe I can create products or services that fulfil customers' unmet needs	4.06	0.88
3.	I believe I can think creatively in business	4.17	0.85
4.	I believe I can achieve goals and objectives related to a new business venture	4.11	0.86
5.	I believe I can build a management team to develop a business	3.98	0.86
6.	I believe I can work productively under continuous stress and pressure from work	3.80	1.01
7.	I believe I can tolerate unexpected changes in business conditions	3.92	0.93
8.	I can discover new ways to improve existing products	4.13	0.85
9.	I can develop a working environment that encourages people to try out something new	4.10	0.95
	Entrepreneurial Self-efficacy (ESE)	4.06	0.90

The mean and standard deviation of nine items representing entrepreneurial self-efficacy were reported in table 4.12 above. The result indicated that all the nine items signifying entrepreneurial self-efficacy have recorded high mean score ranged from 3.80 to 4.28. In essence, item one in the distribution "I believe I could successfully start my own business" recorded the highest mean score ($M = 4.28$, $SD = 0.90$), whereas item six "I believe I can work productively under continuous stress and pressure from work" recorded the lowest mean score ($M = 3.80$, $SD = 1.01$). This

result reveals that individual ability to successfully start up business is the major characteristic signifying entrepreneurial self-efficacy.

4.5.5 Mean and Standard deviation of Perceived Desirability

Table 4.13
Mean and Standard deviation of Perceived Desirability

No	Item	Mean	SD
1.	A career as an entrepreneur is absolutely attractive to me	4.31	0.86
2.	I have no any doubts about ever starting my own business	4.13	0.95
3.	I have very high feelings of ever starting a business	4.15	0.94
4.	I am ready to do anything to be an entrepreneur	3.79	1.11
5.	I will make every effort to start and run my own business	4.22	0.89
6.	Being an entrepreneur would give me great satisfaction	4.20	0.90
7.	My professional goal is to be an entrepreneur	4.05	1.07
	Perceived Desirability (PDE)	4.12	0.96

Table 4.13 showed the mean and standard deviation of seven items representing perceived desirability. All the items with no exception recorded high level of mean score ranged from 3.79 to 4.31. The first item in the distribution “a career as an entrepreneur is absolutely attractive to me” recorded the highest level of mean score (M = 4.31, SD = 0.86), whereas the fourth item in the distribution “I am ready to do anything to be an entrepreneur” recorded the lowest mean score (M = 3.79, SD = 1.11). The result shows that a career as an entrepreneur is absolutely attractive as the main characteristic of perceived desirability.

4.5.6 Mean and Standard deviation of Supportive Environment

Table 4.14
Mean and Standard deviation of Supportive Environment

No	Item	Mean	SD
1.	Entrepreneurship education in university encourages me to develop creative ideas for being an entrepreneur	4.15	1.07
2.	My university provides the necessary knowledge about entrepreneurial career option	3.90	1.12
3.	My university provides the necessary support on entrepreneurial career option	3.51	1.15
4.	My university develops my entrepreneurial skills and abilities	3.61	1.15
5.	In Nigeria, entrepreneurs are encouraged by private organizations	3.54	1.11
6.	In Nigeria, entrepreneurs are encouraged by public organizations	3.23	1.13
7.	In Nigeria, entrepreneurs are encouraged by non-governmental organizations	3.69	1.06
8.	Nigerian economy provides many opportunities for entrepreneurs	3.40	1.20
9.	Taking loans from banks is quite easier for graduate entrepreneurs in Nigeria	2.72	1.30
10.	State laws (rules and regulations) are favourable for running a business in Nigeria	3.31	1.12
	Supportive Environment (SEN)	3.51	1.14

Table 4.14 above showed mean and standard deviation of ten items representing supportive environment. The result revealed that only three out of ten items recorded high level of mean scores ranged from 3.69 to 4.15, whereas the remaining seven items representing supportive environment recorded moderate level of mean scores ranged from 2.72 to 3.61. In addition, the result revealed that “entrepreneurship

education in university encourages student to develop creative ideas for being an entrepreneur” recorded the highest mean score ($M = 4.15$, $SD = 1.07$), whereas “taking loans from banks is quite easier for graduate entrepreneurs in Nigeria” recorded the lowest mean score ($M = 2.72$, $SD = 1.30$). In essence, the result shows that entrepreneurship education encourages student to develop creative ideas for being an entrepreneur is the main characteristic of supportive environment.

Table 4.15
Summary of the Descriptive statistics for latent variables

No	Latent variable	No. of items	Mean	SD
1.	Entrepreneurial career option	14	4.01	1.08
2.	Entrepreneurial knowledge	8	3.83	0.95
3.	Entrepreneurial skills	8	3.79	0.98
4.	Entrepreneurial Self-efficacy	9	4.06	0.90
5.	Perceived desirability	7	4.12	0.96
6.	Supportive environment	10	3.51	1.14

The table 4.15 above presented the mean and standard deviation of the entire latent variables in this study. The result showed that the entire variables with the exception of supportive environment recorded high level of mean scores ranged from 4.12 to 3.79, while supportive environment recorded a moderate level of mean score 3.51. In nut shell, perceived desirability recorded the highest mean score ($M = 4.12$, $SD = 0.96$), whereas supportive environment recorded the less mean score ($M = 3.51$, $SD = 1.14$). Conclusively, the means of entire variables were at the range of high level except supportive environment which recorded a moderate mean. This justifies the suitability of the variables for the study.

4.6 Assessment of Measurement Model

PLS-SEM analysis starts with the assessment of measurement model or outer model as it is commonly referred to. The assessment of outer model confirms the individual item reliability, internal consistency, content and convergent validity, and discriminant validity (Hair et al., 2011; Ramayah, Lee & In, 2011). In other words, evaluation of the outer model verifies whether the survey items measure the constructs they were intended to measure, hence ensuring the validity and reliability of the measure. Obviously, outer model analysis is concerned with appraisal of the goodness of measures.

In this study, the outer model was used to evaluate the reliability and validity of the construct measures using PLS-SEM Algorithm. Accordingly, Hair et al. (2013) suggest that reliability and validity are the two prime criteria used in PLS-SEM analysis to assess the goodness of the outer model. In addition, Ramayah et al. (2011) recommend that the goodness of the outer model can be measured using; indicator reliability, internal consistency reliability, convergent validity and discriminant validity. The figure 4.2 represents PLS-SEM Algorithm for the measurement model.

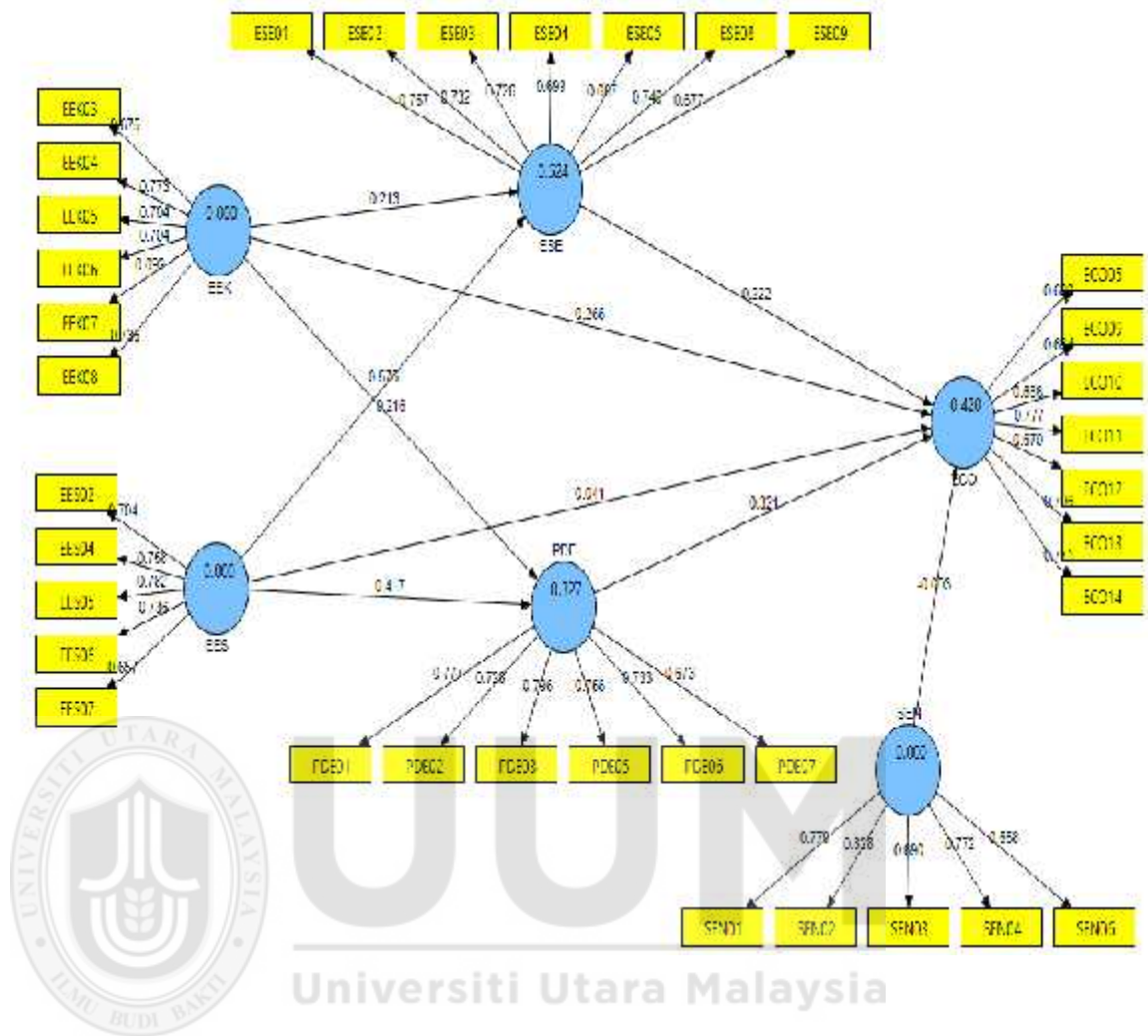


Figure 4.2
PLS-SEM Algorithms for Measurement Model

In the measurement model above, the two major criteria of assessing the model's quality - reliability and validity were tested to evaluate the goodness of the model. The reliability test assesses the consistency of the measuring instrument to measures what it is intended to measure (Hair et al., 2010; Sekaran & Bougie, 2010). In other words, if different measurements are taken over a period of time, reliable measures will be consistent in their values. Meanwhile, the validity test assesses the extent to

which a measure or set of measures correctly represents the concept of study (Ramayah et al., 2011). Validity is concerned with how well the concept of the study is defined by the measuring instrument. Therefore, in this study the quality of the measurement model was assessed in terms of indicator reliability; internal consistency reliability; convergent validity and discriminant validity.

4.6.1 Indicator Reliability

In this study, PLS-SEM algorithm was used to assess the individual indicator's contribution (item reliability) to assigned construct by observing at the outer loadings of individual items that made up the construct (Duarte & Raposo, 2010; Hair et al., 2012). Accordingly, Hair, Hult, Ringle and Sarterdt (2014) suggest that items with outer loadings between 0.40 and 0.7 should be considered for deletion only if such removal of the item leads to an increase in composite reliability and AVE above the recommended threshold level.

In line of this recommendation, observations were made on severally ran PLS-SEM Algorithms to detect and delete any item that did not meet the stated threshold. Based on these observations, 20 items were deleted out 56 items mostly not because of the threshold of outer loading value greater than 0.4 was not met, but for the reason that their deletion increase the value of composite reliability and AVE which are of paramount important to the study. Consequently, in the entire model, only 36 items were retained with their loadings between 0.557 and 0.828 (see Appendix O5).

4.6.2 Internal Consistency Reliability

Internal consistency reliability typically indicates how well the items in a set are positively corrected to one another (Sekaran & Bougie, 2010; Hair et al., 2013). In other words, internal consistency reliability signifies the extent to which the indicators measuring the construct produce similar scores when the construct is measured over a period of time. It measures the stability of the result concerning items of the same test (Hair et al., 2010; Sun et al., 2007). The most commonly used methods of evaluating the internal consistency reliability for the research's measuring instrument are Cronbach's alpha coefficient and composite reliability coefficient (Hair et al., 2010; Peterson & Kim, 2013).

Accordingly, Sekaran and Bougie (2010) suggest the reliabilities less than 0.60 are considered to be poor, those at the range of 0.70 are considered acceptable, and those over 0.80 are considered good. In addition, Hair et al. (2012) view that Cronbach's alpha and composite reliability do not assume equal indicators loading of construct. Obviously, composite reliability coefficient varies between 0 and 1; the threshold value should not be less than 0.60 but value from 0.70 and above is most desirable (Hair et al., 2012; Hair et al., 2013; Henseler et al., 2009). Again, Nunnally and Bernstein (1994) suggest composite reliability coefficient between 0.60 and 0.70 ascertains average internal consistency whereas value between 0.70 and 0.90 is considered as adequate. Moreover, Hair et al. (2011) and Hair et al. (2013) argue that it is more appropriate to apply different measures of internal consistency reliability due to the limitations of each measure.

Therefore, in this study, both composite reliability and Cronbach's alpha coefficient for all the constructs were examined (see Appendix O1 & O2), and the results in table 4.16 undoubtedly shows that both composite reliability and Cronbach's alpha coefficient surpassed the suggested threshold value of 0.70 (Hair et al., 2012; Hair et al., 2013; Sekaran & Bougie, 2010). The composite reliability coefficient in this study range between 0.85 and 0.88, whereas the Cronbach's alpha coefficient on the other hand range between 0.78 and 0.84. These indicated the reliability of the measurement model.

Table 4.16
Indicator Loadings and Internal Consistency Reliability

Latent constructs & Indicator	Standardized Loadings	Composite Reliability	Cronbach's Alpha	AVE
Entrepreneurial career option (ECO)		0.882	0.844	0.52
ECO05	.689			
ECO09	.634			
ECO10	.686			
ECO11	.778			
ECO12	.679			
ECO13	.796			
ECO14	.771			
Entrepreneurial Knowledge (EEK)		0.862	0.812	0.51
EEK03	.686			
EEK04	.771			
EEK05	.701			
EEK06	.698			
EEK07	.691			
EEK08	.732			
Entrepreneurial Skills (EES)		0.850	0.779	0.53
EES02	.709			
EES04	.752			
EES05	.789			
EES06	.736			
EES07	.650			
Entrepreneurial Self-efficacy (ESE)		0.882	0.843	0.52
ESE01	.757			
ESE02	.727			
ESE03	.722			

ESE04	.706			
ESE05	.687			
ESE08	.750			
ESE09	.676			
Perceived Desirability (PDE)		0.882	0.839	0.56
PDE01	.778			
PDE02	.733			
PDE03	.800			
PDE05	.757			
PDE06	.728			
PDE07	.667			
Supportive Environment (SEN)		0.850	0.782	0.54
SEN01	.778			
SEN02	.828			
SEN03	.689			
SEN04	.772			
SEN06	.557			

4.6.3 Convergent Validity

Convergent validity is the magnitude to which a measure correlates positively with other measures of the same construct (Hair et al., 2013; Hair et al., 2014). Accordingly, the common measure to establish convergent validity is on the construct level is the average variance extracted (AVE), which is regarded as the grand mean of the squared loadings of the indicators associated construct (Hair et al., 2013; Hair, Ringle & Sarstedr, 2011). An established rule of thumb is that a latent variable should explain a significant portion of each indicator's variance, typically at minimum 50%. Conversely, an AVE of less than 0.50 shows that, on average, more error remains the items than the variance explained by the construct (Hair, Jr et al., 2013; Hair, Ringle & Sarstedr, 2011). In addition, Hair et al. (2011) suggest that indicators with very low outer loading (below 0.4) should, however, always be removed from the scale.

In the study, the convergent validity was measured by evaluating the indicator's outer loadings and AVE values. High outer loadings on a construct indicate that the associated indicators have much in common, which is apprehended by the construct (Hair et al., 2013; Henseler et al., 2009). In this regard, the indicator's outer loadings and the AVE values were evaluated in line with the threshold values of 0.4 and above for indicator's outer loadings, and 0.5 for AVE values (Hair et al., 2011; Hair et al., 2013; Henseler et al., 2009). The results in Table 4.17 reveal the indicator's outer loadings satisfied the threshold values of 0.4 and above. Furthermore, the results also reveal that the AVE values range between 0.51 and 0.56 for all the constructs, these exceed the threshold values of 0.5. So therefore, it is logical to conclude that the results show the evidence for establishment of convergent validity.

Table 4.17
Indicator Loadings and Average Variance Extracted (AVE)

Variable	Indicator	Loading	AVE
Entrepreneurial career option (ECO)			0.52
	ECO05	.689	
	ECO09	.634	
	ECO10	.686	
	ECO11	.778	
	ECO12	.679	
	ECO13	.796	
	ECO14	.771	
Entrepreneurial Knowledge (EEK)			0.51
	EEK03	.686	
	EEK04	.771	
	EEK05	.701	
	EEK06	.698	
	EEK07	.691	
	EEK08	.732	
Entrepreneurial Skills (EES)			0.53
	EES02	.709	

	EES04	.752	
	EES05	.789	
	EES06	.736	
	EES07	.650	
Entrepreneurial Self-efficacy (ESE)			0.52
	ESE01	.757	
	ESE02	.727	
	ESE03	.722	
	ESE04	.706	
	ESE05	.687	
	ESE08	.750	
	ESE09	.676	
Perceived Desirability (PDE)			0.56
	PDE01	.778	
	PDE02	.733	
	PDE03	.800	
	PDE05	.757	
	PDE06	.728	
	PDE07	.667	
Supportive Environment (SEN)			0.54
	SEN01	.778	
	SEN02	.828	
	SEN03	.689	
	SEN04	.772	
	SEN06	.557	

4.6.4 Discriminant Validity

Discriminant validity is concern with the extent to a variable is essentially different from other variables (Bryne, 2010; Hair et al., 2010). In other words, it can be described as the extent to which a particular latent variable is truly not the same with the other latent variables (Duarte & Raposo, 2010). Hence, a higher level of discriminant validity indicates that a latent variable is distinct from other latent variables, and captures different phenomena from other latent variables. The most conventional technique for measuring discriminant validity is Fornell and Larcker

criterion (Hair et al., 2013; Henseler et al., 2009). In addition, Chin (1998) suggests that discriminant validity can be established by comparing the items' loadings of each variable with one another.

In this study, discriminant validity was measured by comparing the square root of AVE for each latent variable with the correlations of the other latent variables in the correlation matrix. Table 4.18 presents the results of Fornell and Larcker criterion assessment using correlations and square roots of AVE of the latent constructs. The results show that the square root of AVE in bold is higher than the correlations of other latent variables within the same row and column (see Appendix O3 & O4).

Table 4.18
Latent Variable Correlation and Square Roots of Average Variance Extracted

Latent variable	ECO	EEK	EES	ESE	PDE	SEN
ECO	.730					
EEK	.513	.715				
EES	.448	.596	.729			
ESE	.548	.556	.703	.718		
PDE	.564	.464	.545	.646	.745	
SEN	.294	.445	.306	.303	.384	.732

Note: ECO = Entrepreneurial Career Option, EEK = Entrepreneurial Knowledge, EES = Entrepreneurial Skills, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability, SEN = Supportive Environment

Furthermore, discriminant validity could be assessed by examining the indicator's outer loadings (Chin, 1998; Hair et al., 2013). Accordingly, discriminant validity can be established once the indicator's outer loading on a latent construct is higher than its cross loadings in relation with other latent constructs (Chin, 1998; Hair et al., 2013; Henseler et al., 2009). Therefore, table 4.19 shows the non-existence of

discriminant validity problem in this study, since the loadings are higher than the threshold value of 0.5 (Chin, 1998; Heseler et al., 2009) and the factor loading of each indicator (shown in bold) is higher than its cross loadings (see Appendix O5). Hence, the study established that there is no problem of discriminant validity among the latent variables.

Table 4.19
Factor loading and Cross loadings

Indicators	ECO	EEK	EES	ESE	PDE	SEN
ECO05	.689	.295	.309	.368	.437	.171
ECO09	.634	.295	.254	.356	.403	.232
ECO10	.686	.356	.348	.384	.382	.197
ECO11	.778	.419	.347	.433	.423	.206
ECO12	.679	.293	.228	.309	.358	.164
ECO13	.796	.430	.337	.433	.420	.246
ECO14	.771	.474	.411	.456	.416	.254
EEK03	.498	.686	.436	.496	.353	.262
EEK04	.469	.771	.461	.462	.428	.342
EEK05	.307	.701	.437	.330	.280	.347
EEK06	.291	.698	.371	.328	.315	.303
EEK07	.268	.691	.421	.326	.246	.340
EEK08	.253	.732	.414	.371	.30	.336
EES02	.345	.436	.709	.540	.447	.195
EES04	.329	.385	.752	.549	.379	.236
EES05	.371	.477	.789	.507	.427	.245
EES06	.343	.471	.736	.532	.408	.228
EES07	.220	.402	.650	.413	.310	.21
ESE01	.411	.449	.540	.757	.507	.234
ESE02	.391	.383	.531	.727	.487	.196
ESE03	.393	.333	.492	.722	.462	.155
ESE04	.399	.401	.444	.706	.424	.263
ESE05	.407	.363	.477	.687	.438	.201
ESE08	.409	.467	.530	.750	.483	.24
ESE09	.345	.403	.514	.676	.448	.230
PDE01	.473	.365	.412	.493	.778	.236
PDE02	.401	.300	.428	.472	.733	.266
PDE03	.403	.352	.486	.523	.800	.252
PDE05	.378	.319	.415	.546	.757	.292
PDE06	.459	.384	.377	.498	.728	.320
PDE07	.403	.354	.315	.345	.667	.365
SEN01	.256	.303	.218	.282	.388	.778
SEN02	.249	.348	.241	.234	.355	.828
SEN03	.117	.311	.191	.170	.219	.689
SEN04	.228	.351	.255	.237	.228	.772
SEN06	.171	.330	.205	.156	.143	.557

4.7 Structural Model

Subsequent to the general assessment of the measurement model (outer model), specifically when the latent variables satisfied the suggested reliability and validity index, then the following stage was assessment of the structural model (inner model). The evaluation of the structural model involved measuring the model's predictive capabilities and abilities to measure relationships between the constructs. Accordingly, inner model assessment involved the determination of the latent variables' path coefficients, coefficients of determination, effect size and the model's predictive relevance (Anderson & Gerbing, 1988; Barclay et al., 1995; Hair et al., 2010; Hair et al., 2013).

In this section, the main focus was the examination of the relationships among the latent variables and the general analysis of modelling as a whole. In addition, the section also assessed the path coefficient of the latent variables and tested the hypotheses linked with the main, mediating and moderating effects. Furthermore, the coefficients of determination (R^2), effect size and the model's predictive relevance were assessed and reported as such.

4.7.1 Results of Direct Relationship

The model direct relationship was tested in an attempt to answer research question 1, 2, 3, 5 and 6 of the study. The research questions were stated as follows:

- 1.** Is there any significant relationship between entrepreneurship education and entrepreneurial career option?

2. Is there any significant relationship between entrepreneurship education and entrepreneurial self-efficacy?
3. Is there any significant relationship between entrepreneurial self-efficacy and entrepreneurial career option?
5. Is there any significant relationship between entrepreneurship education and perceived desirability?
6. Is there any significant relationship between perceived desirability and entrepreneurial career option?

Accordingly, the appraisal of the inner model started with considerations of the direct relationship between the independent latent variable and the dependent latent variable. A logical PLS-SEM model analysis of the structural model was carried out to make available a comprehensive presentation of the outcomes of the model, and test hypotheses with direct relationship in the structural model effectively. The path coefficients' size of the latent variables were observed through PLS-SEM Algorithm, and the direct relationships between the independent latent variables and the dependent latent variable were tested by means of PLS-SEM bootstrapping technique using Smart PLS 2.0. In addition, the original number of cases (359) was applied as the number of cases, and 5000 as bootstrapping samples (Hair, Ringle, & Sarstedr, 2011; Hair et al., 2011; Henseler et al., 2009).

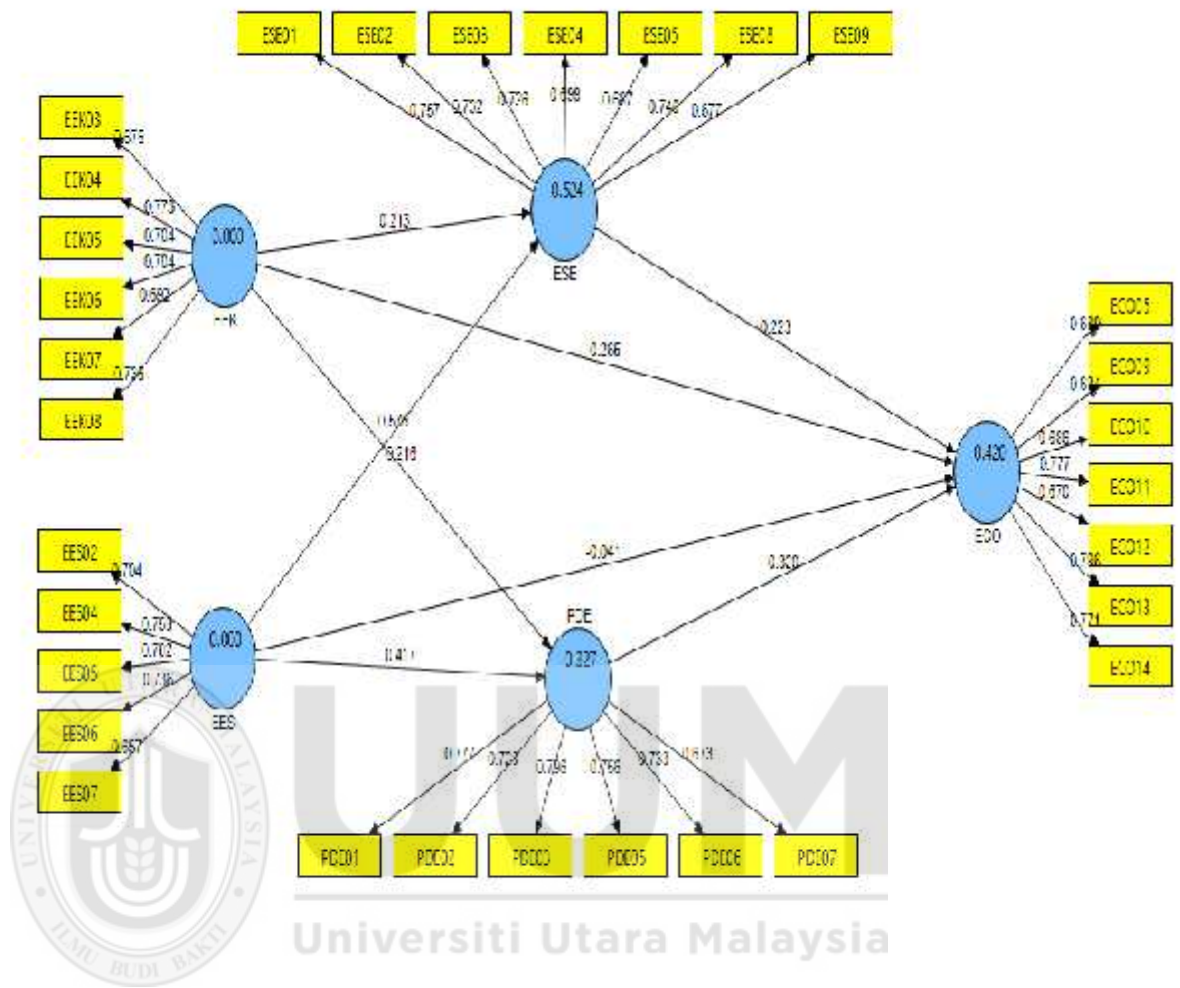


Figure 4.3
PLS-SEM Algorithm - Direct relationship

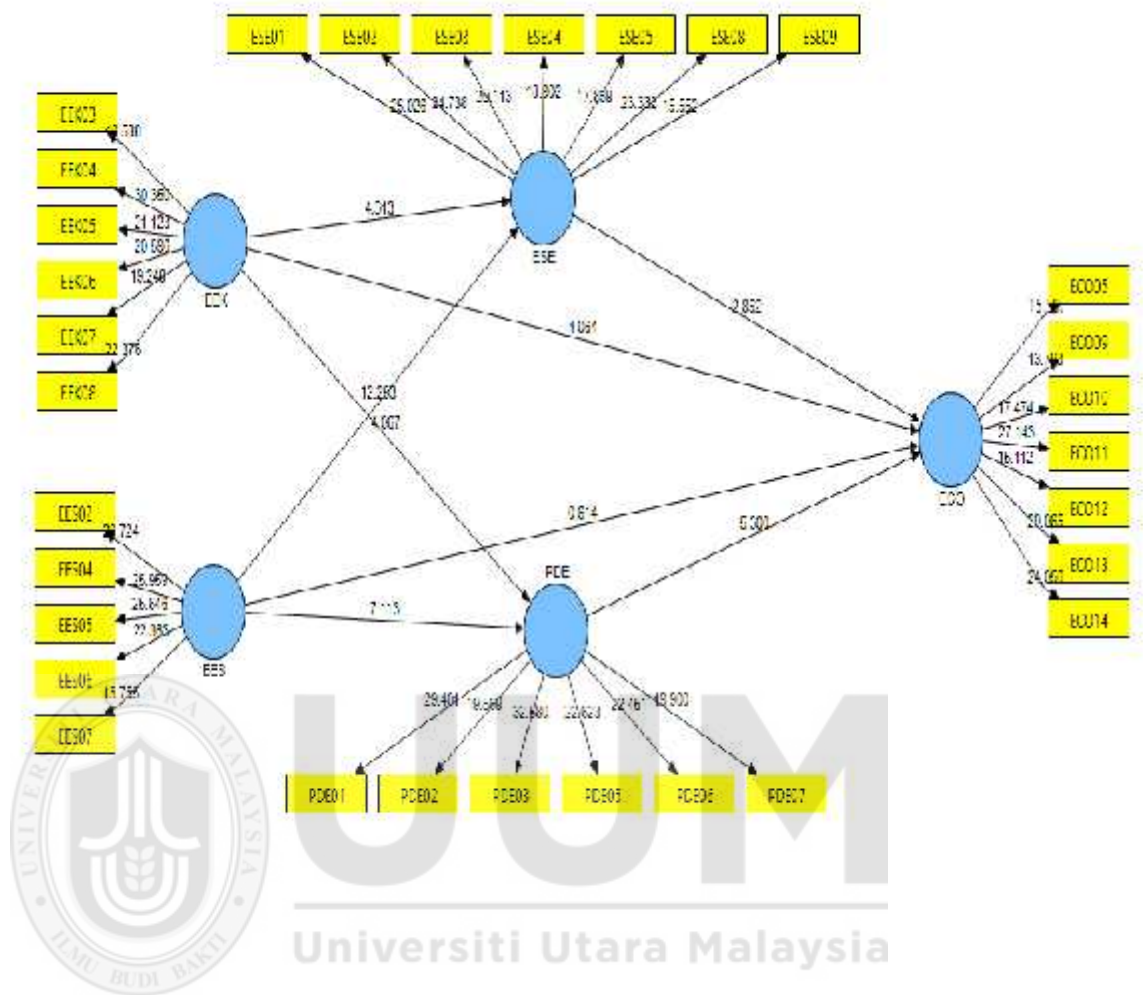


Figure 4.4
PLS-SEM Bootstrapping - Direct relationship

The output of the PLS-SEM algorithm in Figure 4.3 (see Appendix P) showed the path coefficients of the independent latent variables and the dependent latent variable. The outcome revealed that all the independent latent variables have a positive coefficient in relation with the dependent latent variable except one (EES -> ECO) which displayed a negative coefficient of -0.041. On the other hand, the bootstrapping result in Figure 4.4 has shown that relationship between all the

independent latent variables and the dependent variable are significant at $P < .01$; except one which indicates no significant relationship as shows in table 4.20.

Table 4.20
Results of hypotheses testing (Direct relationship)

Hypothesis	Path	Beta	Standard Error	t-statistics	p-value	Decision
H _{1a}	EEK -> ECO	0.265	0.065	4.091	0.00***	Supported
H _{1b}	EES -> ECO	-0.041	0.068	0.604	0.55	Not supported
H _{2a}	EEK -> ESE	0.213	0.049	4.355	0.00***	Supported
H _{2b}	EES -> ESE	0.576	0.046	12.482	0.00***	Supported
H ₃	ESE -> ECO	0.223	0.079	2.809	0.01***	Supported
H _{5a}	EEK -> PDE	0.216	0.054	3.974	0.00***	Supported
H _{5b}	EES -> PDE	0.417	0.059	7.051	0.00***	Supported
H ₆	PDE -> ECO	0.320	0.060	5.309	0.00***	Supported

Note: ***Significant at 0.01 (2-tailed), **significant at 0.05 (2-tailed), *significant at 0.1 (2-tailed)

Table 4.21 above presented the path coefficients, t-statistics and P-value of the direct relationship between the independent latent variable and the dependent latent variable (H_{1a}, H_{1b}, H_{2a}, H_{2b}, H₃, H_{5a}, H_{5b}, & H₆). In respect to H_{1a}, the result suggests that there is a positive and a significant relationship between EEK and ECO ($\beta = 0.265$, $t = 4.091$, $p < 0.000$); therefore, H_{1a} is hereby supported. However, the result in the table suggests H_{1b} is not supported because the result has shown no significant relationship between EES and ECO ($\beta = -0.041$, $t = 0.604$, $p < 0.55$). The table also reveals that a positive and significant relationship exist between EEK and ESE ($\beta = 0.213$, $t = 4.355$, $p < 0.000$); therefore supporting H_{2a}. Similarly, the result indicates that the relationship between EES and ESE is positively significant ($\beta = 0.576$, $t = 12.482$, $p < 0.000$); henceforth supporting the H_{2b}.

Furthermore, the result indicates that there is significant positive relationship between ESE and ECO ($\beta = 0.223$, $t = 2.809$, $p < 0.01$); signifying support for H₃. Equally, the table reveals a positive and significant link between EEK and PDE ($\beta = 0.216$, $t = 3.974$, $p < 0.000$); this indicating sustenance for H_{5a}, and that signifying support for the hypothesis. Correspondingly, the table also presents that there is a positive and significant relationship between EES and PDE ($\beta = 0.417$, $t = 7.051$, $p < 0.000$); therefore, the H_{5b} is hereby supported. Similarly, the result also shows evidence of a positive and significant relationship between PDE and ECO ($\beta = 0.417$, $t = 7.051$, $p < 0.000$); so H₆ is hereby supported.

4.7.2 Mediation Test

Mediation test explains the indirect relationship between the independent latent variable and the dependent latent variable via an intervening variable (Ramayah et al., 2011). A mediation test was conducted to answer research question 4 and 7 of this study. These research questions stated as follows:

4. Does entrepreneurial self-efficacy mediates relationship between entrepreneurship education and entrepreneurial career option?

7. Does perceived desirability mediates relationship between entrepreneurship education and entrepreneurial career option?

In this case, mediation test is engaged to determine whether a mediator variable can meaningfully convey the capability of an independent latent variable to a dependent latent variable (Hair et al., 2010; Hair et al., 2012). Accordingly, Hayes and Preacher

(2010) observe that there are several approaches for testing mediation between an independent latent variable and dependent latent variable. These approaches include: the causal steps strategy (Baron & Kenny, 1986); the product of coefficient method or Sobel test (Sobel, 1982); the distribution of the product approach (MacKinnon, Lockwood & Williams, 2004). However, the most commonly use and recent technique for mediation analysis is bootstrapping approach (Hayes, 2009; Hair et al. 2010).

In addition, bootstrapping procedures generate empirical representation of the distribution of the samples (Hair et al. 2010; Hair et al., 2013). Consequently, based on the observed advantages, Hayes and Preacher (2010) and Hair et al., (2013) recommend mediation test using bootstrapping methods. In this method according to Hair et al. (2010), mediation is measured using t-value; when the t-value > 1.96 at 0.05 level of significance using two tail test then mediation is established. Alternatively, using one-tail test mediation is established when the t-value > 1.64 at 0.05 level of significance. Therefore, in this study bootstrapping approach was adopted using PLS-SEM technique to test the mediating effect between the independent latent variables and the dependent latent variable.

The mediation test started with the assessment of the model's path coefficients for the direct association between the independent latent variables and the dependent latent variable without intervening variable. In this regard, the path models comprised path coefficients and t-values were established via PLS-SEM algorithm and bootstrapping procedure as shows in Figure 4.5 and Figure 4.6 respectively. The

result of the PLS-SEM Algorithm in Figure 4.5 indicates the path coefficients of the two dependent variables (EEK and EES) in relationship with the two intervening variables (ESE and PDE) are all positive ranged from 0.21 to 0.58. The result also reveals that the path coefficients between the two intervening variables (ESE and PDE) and dependent variable (ECO) are also positive.

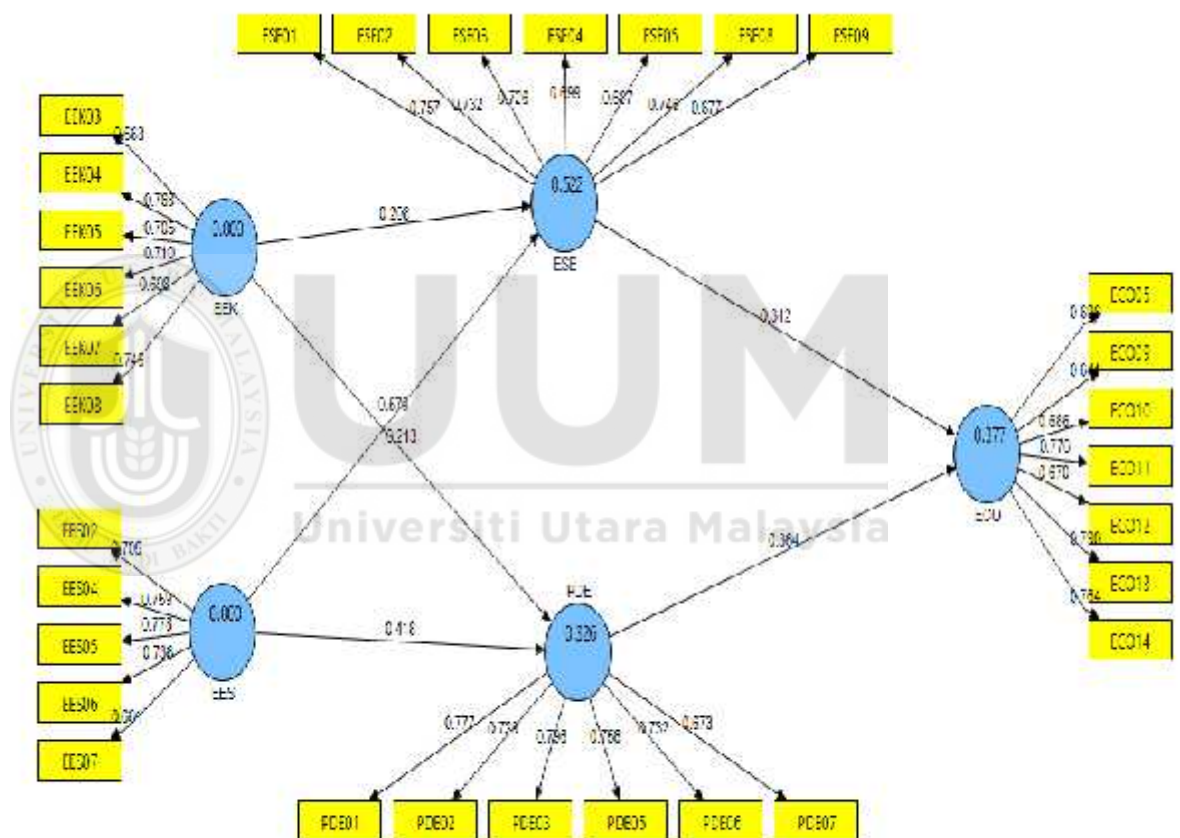


Figure 4.5
PLS-SEM Algorithm - Indirect relationship

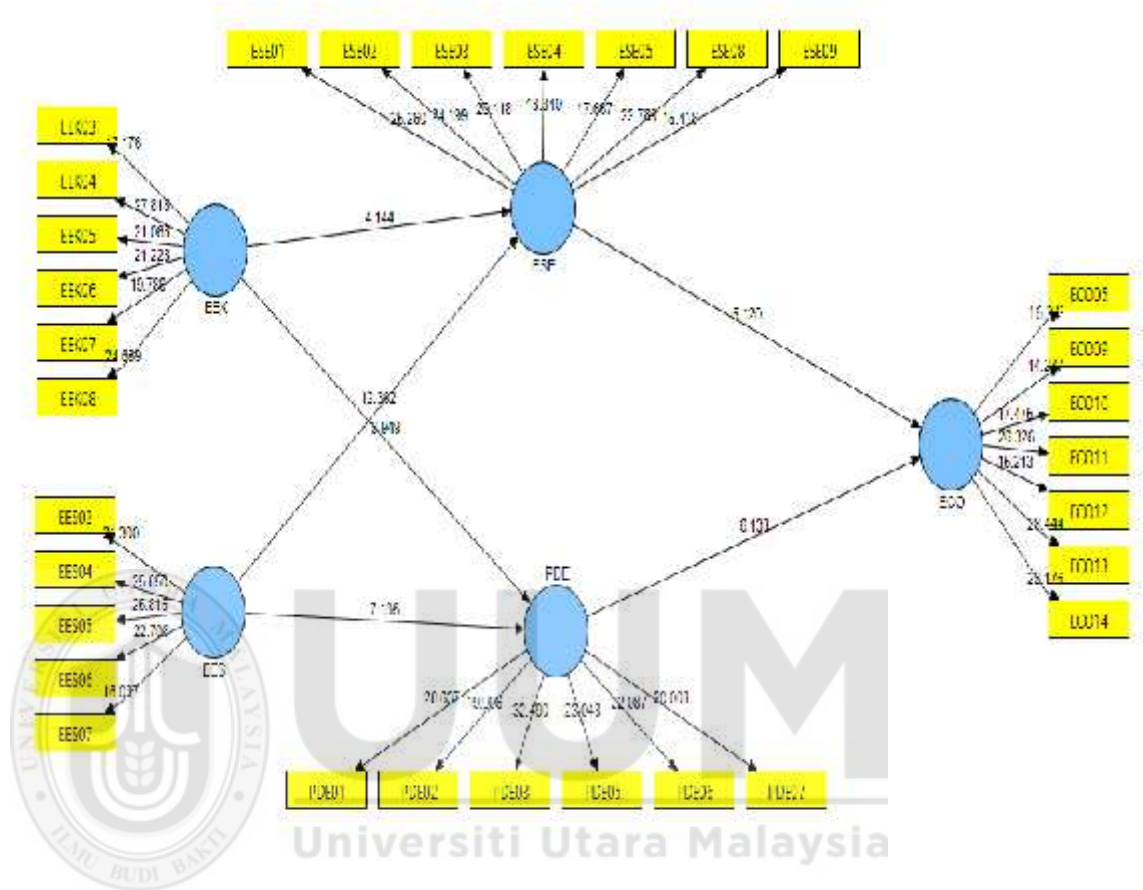


Figure 4.6
PLS-SEM Bootstrapping - Indirect relationship

The Figure 4.6 above showed the results of the indirect relationship between the independent latent variables (EEK and EES) and the dependent latent variable (ECO) via the intervening variables (ESE and PDE). The model bootstrapping was conducted with 359 cases and 5000 as sub-samples (Hair et al., 2010). The bootstrapping results were used to calculate the mediation effect of the intervening

variables between the independent variables and the dependent variable by multiply path (a) and path (b); then the product was divided by the standard error of the product of the two paths $\left(\frac{axb}{S_{ab}}\right)$ to get the t-value (Hair et al., 2011; Kock, 2011; Zhao et al., 2010). However, Kock (2011) simplify the process using a mathematical formula as follows:

$$T = \left(\frac{axb}{S(axb)} \right)$$

Where:

‘**T**’ represents t-value

‘**a**’ represents value in relationships between independent latent variable and intervening variable,

‘**b**’ represents value in relationship between intervening variable and dependent variables and,

‘**S (axb)**’ represents standard deviation of (a) and (b) above.

In view of that, the table 4.21 presents the computed mediation results of the relationship between independent variables and the dependent variable via intervening variables. The results reveal that entrepreneurial self-efficacy mediates the relationship between EEK and ECO ($\beta = 0.049$, $t = 2.263$, $p < 0.05$); so therefore, H_{4a} is thereby supported. Also, the table shows that entrepreneurial self-efficacy mediates the relationship between EES and ECO ($\beta = 0.130$, $t = 2.843$, $p < 0.00$); henceforth supporting the H_{4b} . Similarly, the result reveals that perceived desirability mediates the relationship between EEK and ECO ($\beta = 0.070$, $t = 3.014$, $p < 0.00$); so H_{7a} is hereby supported. Equally, the table shows that perceived desirability mediates

the relationship between EES and ECO ($\beta = 0.134$, $t = 4.367$, $p < 0.00$); thus supporting the H_{7b}.

Table 4.21
Results for Mediation test (Indirect relationship)

Hypothesis	Path	Beta	Standard Deviation	t-value	p-value	Decision
H _{4a}	EEK -> ESE-> ECO	0.049	0.022	2.263	0.02**	Supported
H _{4b}	EES -> ESE -> ECO	0.130	0.046	2.843	0.00***	Supported
H _{7a}	EEK -> PDE-> ECO	0.070	0.023	3.014	0.00***	Supported
H _{7b}	EES -> PDE-> ECO	0.134	0.031	4.367	0.00***	Supported

Note: ***Significant at 0.01 (2-tailed), **significant at 0.05 (2-tailed), *significant at 0.1 (2-tailed)

In essence, the study confirmed the mediating role of ESE and PDE on relationship among EEK, EES, and ECO. In addition, to ascertain the degree of the indirect effect in the model, the study used Variance Accounted For (VAF) value (Helm, Eggert & Garnefeld, 2010). Accordingly, VAF value indicates the ratio of the indirect impact between independent latent variable and dependent latent via intervening variable to the total impact on the direct relationship (Hair et al., 2011; Hayes & Preacher, 2010). The VAF mathematical formula below (Helm et al., 2010) was adopted in this study to calculate the level of the mediating effect between the independent latent variables and dependent latent variable. The formula is shows as follow:

$$VAF = \frac{a*b}{a*b+c}$$

Whereas:

‘a’ represents coefficient value between independent variable and mediating variable,

‘b’ represents coefficient value between mediating variable and dependent variable and,

‘c’ represents coefficient value between independent variable and dependent variable.

4.7.2.1 Mediation Result of Entrepreneurial Self-efficacy between Entrepreneurial Knowledge and Entrepreneurial Career Option

The PLS-SEM bootstrapping in figure 4.6 and mediation test results in table 4.21 above, illustrated the mediating influence of entrepreneurial self-efficacy on relationship between entrepreneurial knowledge and entrepreneur career option. Statistically, the result signifies a significant mediating effect of entrepreneurial self-efficacy ($\beta = 0.049$, $t = 2.263$, $p < 0.05$) on the association between entrepreneurial knowledge and entrepreneur career option. In other words, entrepreneurial self-efficacy serves as medium through which entrepreneur career option actualized. In addition to that, the study assessed the level of the mediating influence entrepreneurial self-efficacy on the association between entrepreneurial knowledge and entrepreneur career option using VAF as follows:

$$\begin{aligned} \text{VAF} &= \frac{a*b}{a*b+c} \\ &= \frac{0.213*0.223}{0.213*0.223+0.265} \\ &= \frac{0.047499}{0.047499+ 0.265} \\ &= \frac{0.047499}{0.312499} \end{aligned}$$

$$= 0.1520$$

The VAF value of 0.1520 demonstrates that entrepreneurial self-efficacy as mediating variable explained 15.20% of the total influence of entrepreneurial knowledge on entrepreneurial career option. This result according to Preacher and Hayes (2010) signifies small mediation effect takes place between the exogenous latent variable and endogenous latent variable via the mediating variable.

4.7.2.2 Mediation Result of Entrepreneurial Self-efficacy between Entrepreneurial Skills and Entrepreneurial Career Option

The mediation results (see table 4.21) revealed that entrepreneurial self-efficacy mediates relationship between entrepreneurial skills and entrepreneur career option. It disclosed statistically that entrepreneurial self-efficacy has a mediating influence on the association between entrepreneurial skills and entrepreneur career option ($\beta = 0.130$, $t = 2.843$, $p < 0.00$). In essence, entrepreneurial self-efficacy intermediate on association between entrepreneurial skills and entrepreneur career option. Notwithstanding, the study used VAF to calculate the level of the mediating impact of entrepreneurial self-efficacy on the association between entrepreneurial skills and entrepreneur career option as follows.

$$\begin{aligned} \text{VAF} &= \frac{a*b}{a*b+c} \\ &= \frac{0.576*0.223}{0.576*0.223+(-0.041)} \\ &= \frac{0.128448}{0.128448+(-0.041)} \end{aligned}$$

$$= \frac{0.128448}{0.087448}$$

$$= 1.4689$$

The VAF value of 1.4689 establishes that entrepreneurial self-efficacy as mediating variable explained 146.89% of the total influence of entrepreneurial skills on entrepreneurial career option. Accordingly, a situation when the VAF has a very large result of 80% and above, it could be conducted that a full mediation took place (Preacher & Hayes, 2010; Hair et al., 2014). In this situation, the outcome is above 80% and therefore it concludes that there is a full mediation of the mediating variable between the independent variable and the dependent variable.

4.7.2.3 Mediation Result of Perceived Desirability between Entrepreneurial Knowledge and Entrepreneurial Career Option

In line with the result at table 4.21 above, perceived desirability mediates relationship between entrepreneurial knowledge and entrepreneur career option. Statistically the table disclosed that perceived desirability mediates the association between entrepreneurial knowledge and entrepreneur career option ($\beta = 0.070$, $t = 3.014$, $p < 0.00$). In essence, perceived desirability serves as intermediary agent on association between entrepreneurial knowledge and entrepreneur career option. Nonetheless, the study used VAF to determine the level of the mediating influence of perceived desirability on the association between entrepreneurial knowledge and entrepreneur career option as follow:

$$\begin{aligned}
\text{VAF} &= \frac{a*b}{a*b+c} \\
&= \frac{0.216*0.320}{0.216*0.320+0.265} \\
&= \frac{0.06912}{0.06912+0.265} \\
&= \frac{0.06912}{0.33412} \\
&= 0.2069
\end{aligned}$$

The VAF value of 0.2069 exhibits that perceived desirability as intervening variable explained 20.69% of the total impact of entrepreneurial knowledge on entrepreneurial career option. Accordingly, Preacher and Hayes (2010) suggest that a situation in which VAF value is greater than 20% and less than 80% can be categorized as substantial mediation. Therefore, using the above criterion the result indicates partial mediation takes place between the independent variable and the dependent variable via the mediating variable.

4.7.2.4 Mediation Result of Perceived Desirability between Entrepreneurial Skills and Entrepreneurial Career Option

Table 4.21 also established the mediating effect of perceived desirability on association between entrepreneurial skills and entrepreneur career option. The result statistically signifies a significant mediating effect of perceived desirability ($\beta = 0.134$, $t = 4.367$, $p < 0.00$) on the association between entrepreneurial skills and entrepreneur career option. In other words, perceived desirability serves as

intermediary through which entrepreneur career option actualized. In addition, the study assessed the level of the mediating effect of perceived desirability on the association between entrepreneurial skills and entrepreneur career option using VAF as follows.

$$\begin{aligned}
 \text{VAF} &= \frac{a*b}{a*b+c} \\
 &= \frac{0.417*0.320}{0.417*0.320+(-0.041)} \\
 &= \frac{0.13344}{0.13344+(-0.041)} \\
 &= \frac{0.13344}{0.09244} \\
 &= 1.444
 \end{aligned}$$

The VAF value of 1.444 demonstrates that perceived desirability as an intervening variable explained 144.40% of the total influence of entrepreneurial skills on entrepreneurial career option; therefore signifies full mediation. According to Preacher and Hayes (2010) when the VAF value is large enough of 80% and above, it could be conducted in such situation that a full mediation took place. In the mediation result above, the outcome is greater than 80% and therefore it concludes that there is a full mediation of the mediating variable between the independent variable and the dependent variable.

4.7.3 Moderation Test

An attempt to answer research question 8 of this was conducted using a moderation test. The research question 8 of this study stated as:

8. Does supportive environment as moderator has positive significant effect on relationship between entrepreneurship education, entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option?

In PLS-SEM, moderation effect analysis starts with the evaluation of the main effects of independent variables on the dependent variables; moderator variable inclusive but without interaction (Chin et al., 2003; Esposito Vinzi et al., 2010). Subsequently, introduce interaction term to assess the moderation effects on the relationship between the independent variables and the dependent variable by multiplying the independent variables with the moderator variable (Chin et al., 2003; Hair et al., 2013); hence, moderation effect holds only when the interaction terms are significant (Hair et al., 2013).

Adopting from the above mentioned procedure (Chin et al, 2003; Esposito Vinzi, et al., 2010), the moderation model in figure 4.7 and 4.8 represent PLS-SEM algorithm and bootstrapping respectively testing the main effects between independent variables and dependent variable with the moderator variable inclusive. Similarly, table 4.23 shows the result of the main effects on the relationship between EEK, EES, ESE, PDE, SEN and ECO.

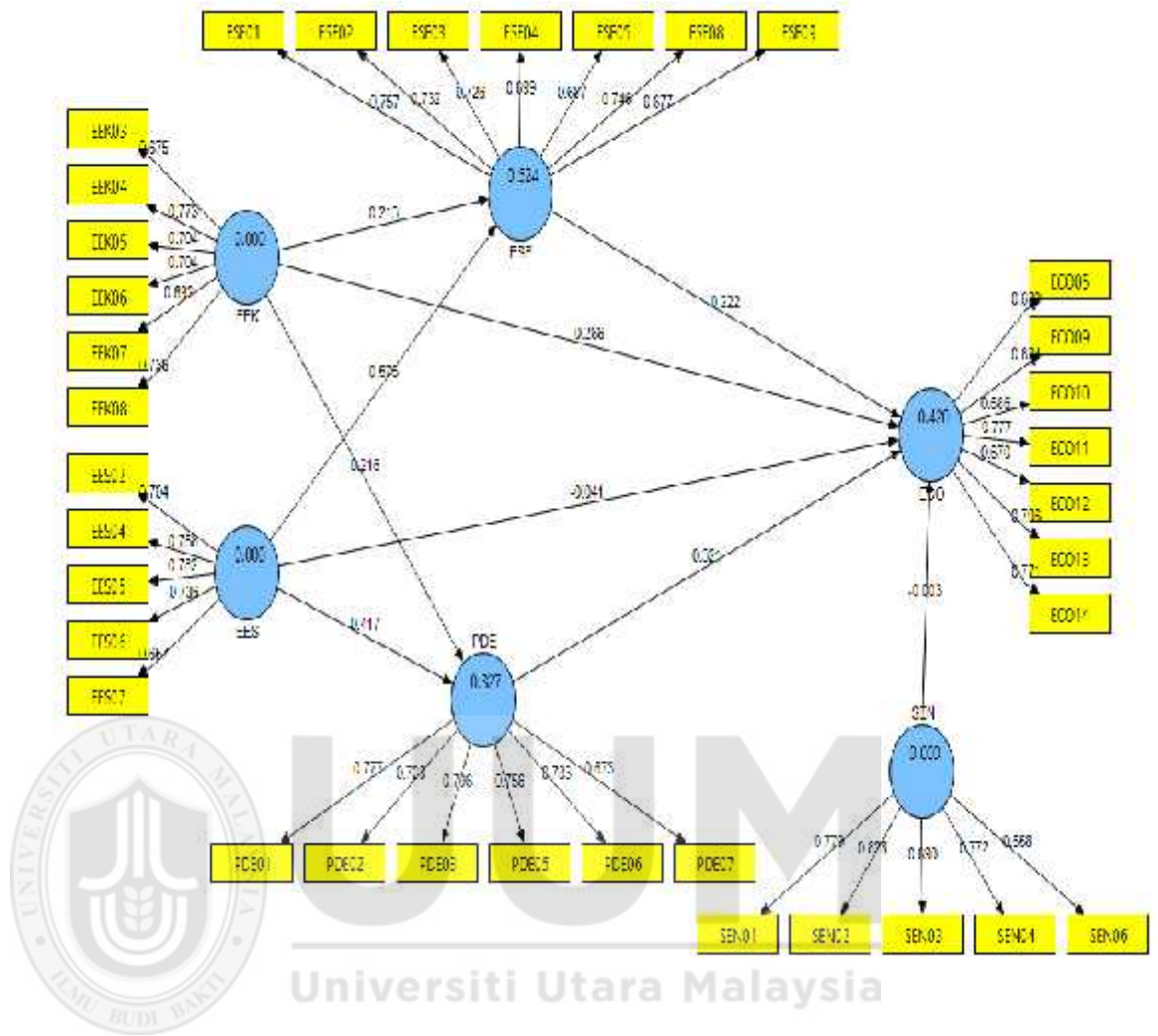


Figure 4.7
PLS-SEM Algorithms - Moderation

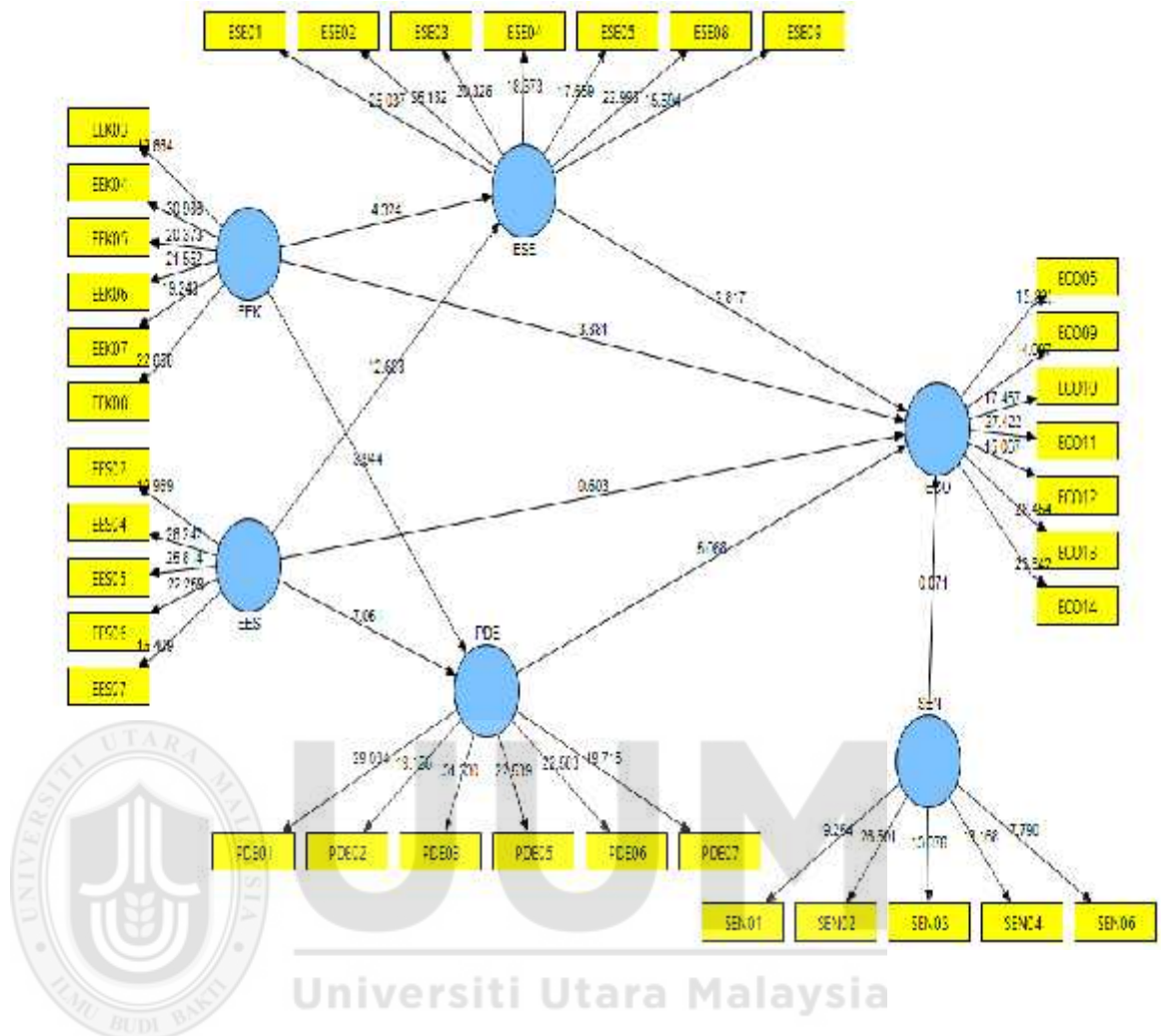


Figure 4.8
 PLS-SEM Bootstrapping - Moderation

Table 4.22
 Results for Main effects with Moderator inclusive

Path	Beta	Std. Deviation	t-value	p-value	Decision
EEK -> ECO	0.382	0.063	6.046	0.00	Supported
EES -> ECO	0.221	0.069	3.189	0.00	Supported
ESE -> ECO	0.223	0.079	2.817	0.01	Supported
PDE -> ECO	0.321	0.063	5.068	0.00	Supported
SEN -> ECO	-0.003	0.043	0.071	0.94	Not supported

Note: ***Significant at 0.01 (2-tailed), **significant at 0.05 (2-tailed), *significant at 0.1 (2-tailed)

Table 4.22 demonstrates the result of main effects between independent variables and dependent variable with the moderator variable inclusive. From the table four out of the five direct relationships between individual independent variable and the dependent variable supported existence of significant relationship among the two variables. Specifically, the relationship between EEK and ECO ($\beta = 0.382$, $t = 6.046$, $p < 0.00$) was supported; EES and ECO ($\beta = 0.221$, $t = 3.189$, $p < 0.00$) was supported; ESE and ECO ($\beta = 0.223$, $t = 2.817$, $p < 0.01$) was supported; and PDE and ECO ($\beta = 0.321$, $t = 5.068$, $p < 0.00$) was also supported. However, the relationship between the moderator variable and dependent variable SEN and ECO ($\beta = -0.003$, $t = 0.071$, $p < 0.94$) was not supported.

In addition, figure 4.9 and 4.10 represent PLS-SEM algorithm and bootstrapping respectively testing the moderation effects of SEN on the relationships among EEK; EES; ESE; PDE and ECO. Figure 4.9 shows the model's path assessment with the moderator variable as independent variable after the interaction term was introduced. The figure demonstrates a positive coefficient on the relationship between SEN and ECO; indicating significant relationship between SEN and ECO. Similarly, the level of R^2 accounted for in the model ($R^2 = 0.435$) is relatively higher than the level of the R^2 (0.420) accounted before the interaction term was introduced (see figure 4.7). Hence, it is established that SEN has a positive influence on ECO.

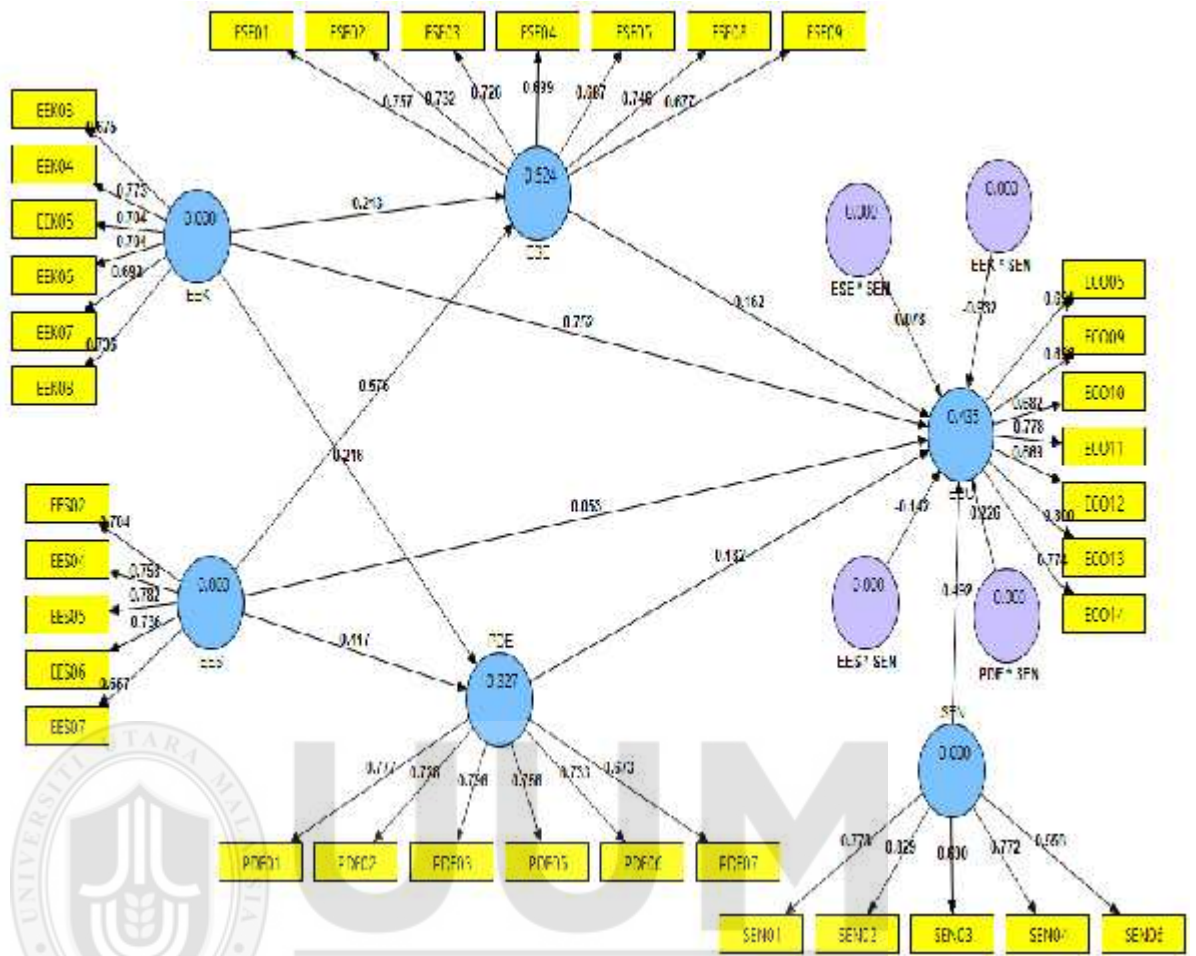


Figure 4.9
PLS-SEM Algorithms– Interactions

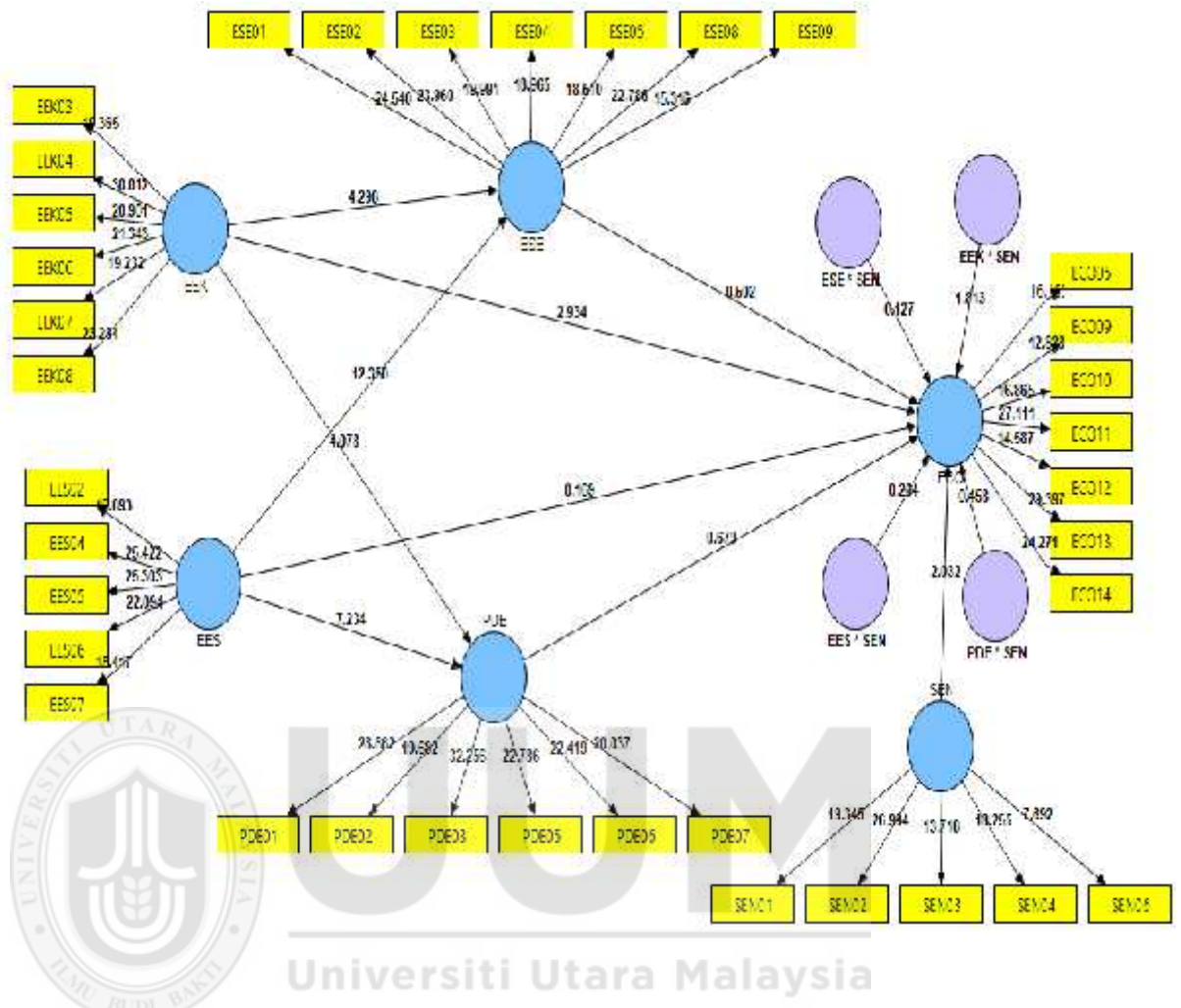


Figure 4.10
PLS-SEM Bootstrapping – Interactions

Table 4.24 demonstrates the result of the moderation test of the study using a product indicator approach to examining the influence of SEN on the association between the exogenous latent variables and endogenous latent variable.

Table 4.23
Result of Moderation test

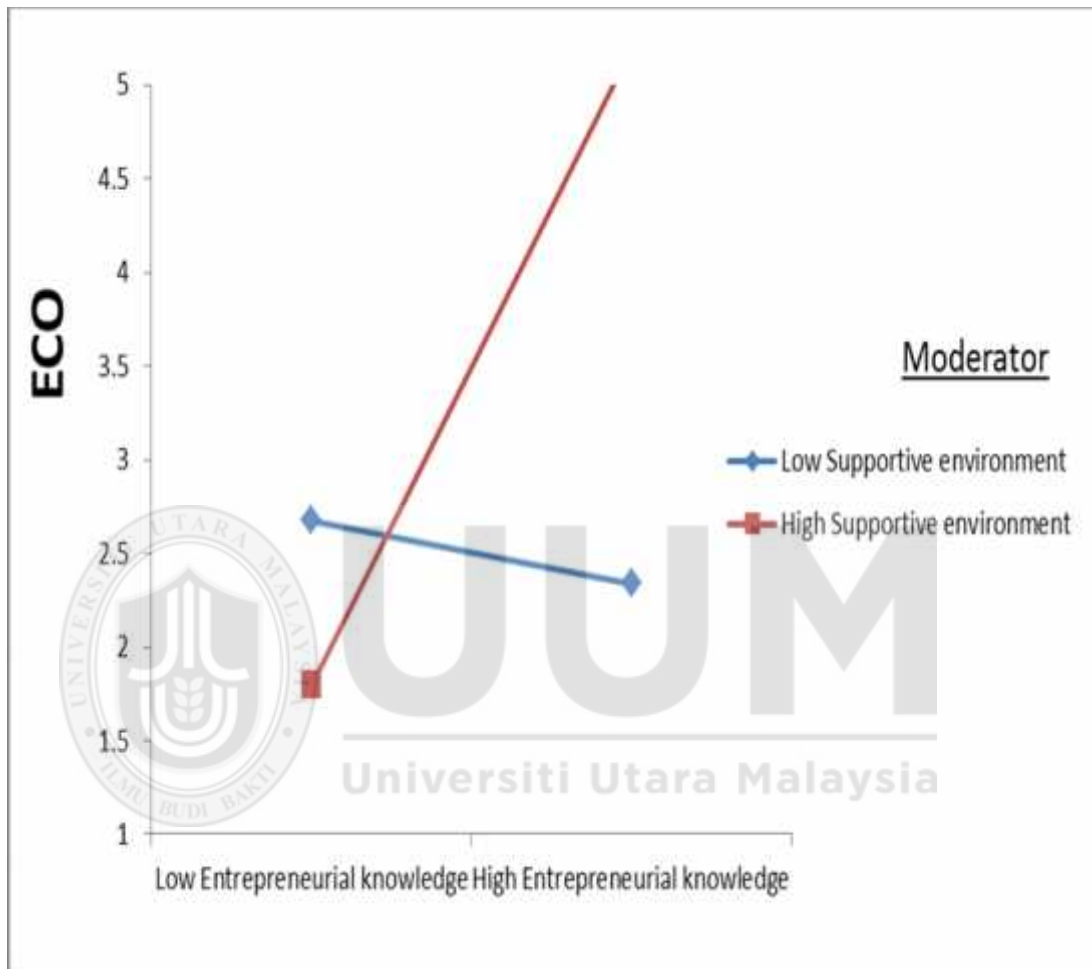
Hypothesis	Path	Beta	Std. Error	t-statistics	p-value	Decision
H _{8a}	EEK * SEN -> ECO	0.932	0.491	1.898	0.03**	Supported
H _{8b}	EES * SEN -> ECO	-0.142	0.540	0.262	0.40	Not supported
H _{8c}	ESE * SEN -> ECO	0.078	0.627	0.124	0.45	Not supported
H _{8d}	PDE * SEN -> ECO	0.226	0.485	0.465	0.32	Not supported

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed)

The result in table 4.23 indicated that only one out of the four hypotheses in relation to moderation effects in the study is supported. Obviously, the result shows that the interaction term is significant EEK* SEN in relation to ECO ($\beta = 0.932$, $t = 1.898$, $p < 0.03$), hence H_{8a} is supported. Conversely, the result shows no significant effect of the EES * SEN interaction term in association between EES and ECO ($\beta = -0.142$, $t = 0.262$, $p < 0.40$), therefore H_{8b} was not supported. Similarly, the result indicates no significant moderation effect of ESE * SEN and ECO interaction term ($\beta = 0.078$, $t = 0.124$, $p < 0.45$), signifies no support for H_{8c}. In addition, the result shows the interaction term of PDE * SEN in relation to ECO is no significant ($\beta = 0.226$, $t = 0.465$, $p < 0.32$), hence H_{8d} is not supported.

In line with Dawson (2014), the path coefficients of the interaction term in relation to H_{8a} was used to plot a graph for the moderating effect of supportive environment on the relationship between entrepreneurial knowledge and entrepreneurial career option. Figure 4.11 demonstrates that supportive environment strengthens the positive relationship between entrepreneurial knowledge and entrepreneurial career option. In other words, the relationship between entrepreneurial knowledge and

entrepreneurial career option is stronger for students with high supportive environment than those with low supportive environment.



Supportive Environment strengthens the positive relationship between Entrepreneurial knowledge and Entrepreneurial career option.

Figure 4.11
Interaction Effect of Supportive environment, Entrepreneurial knowledge and Entrepreneurial career option

4.7.4 Determining the Strength of the Moderating Effect

In this study, the strength of the moderating effects was determined by relating the coefficient of determination (R^2 value) of the main effect model without interaction term with the R^2 value of the complete model that includes all variables and moderator variable (Henseler & Fassott, 2010; Wilden, Gudergan, Nielsen, & Lings, 2013). Accordingly, Cohen (1988) suggests that the strength of the moderating effects should be determined effect sizes. Consequently, the strength of the moderating effects of supportive environment on the association between entrepreneurial knowledge and entrepreneurial career option was assessed using Cohen's effect size formula as follows (Cohen, 1988; Henseler & Fassott, 2010):

$$\text{Effect size} = \frac{R^2 \text{ model with moderator} - R^2 \text{ Model without moderator}}{1 - R^2 \text{ model with moderator}}$$

In view of the above, Cohen (1988) and Henseler and Fassott (2010) recommend the effect size (f^2) values of 0.02 as weak, 0.15 as moderate and 0.35 as strong. In addition, Chin et al. (2003) maintain that a small effect size does not certainly mean that the basic moderating effect is insignificant. Accordingly, a small interaction effect can be significant under extreme moderating settings, particularly when the beta value changes significantly (Chin et al., 2003). Table 4.24 presents strength of the moderating effect of supportive environment on the relationship between entrepreneurial knowledge and entrepreneurial career option.

Table 4.24
Strength of the Moderating Effects

Endogenous Latent Variable	R-squared		f-squared	Effect size
	Included	Excluded		
Entrepreneurial career option	0.435	0.420	0.027	Small

Based on the Cohen's (1988) and Henseler and Fassott's (2010) rule of thumb for effect size (f^2), table 4.24 illustrates that the effect size of .027, indicating a small moderating effect of supportive environment exist on the relationship between entrepreneurial knowledge and entrepreneurial career option.

4.7.5 Coefficient of Determination (R^2)

In PLS-SEM analysis, another most important criterion for assessing structural model is coefficient of determination of endogenous latent variables refers to as R -squared (R^2) (Hair et al., 2012; Hair et al., 2013). The R^2 value explain the level of variation in the endogenous latent variable (s) that can characterized by one or more exogenous latent variable (s) (Barclay et al., 1995; Hair et al., 2010; Elliott & Woodward, 2007). In other words, the R^2 values indicate the summation of variance in the construct that is explained by the model (Chin, 1998; Hair et al., 2013). Conversely, the acceptable level of R^2 value is subjected to the research circumstance (Hair et al., 2010; Hair et al., 2012). Accordingly, Cohen (1988) correspondingly suggested R^2 value of 0.27, 0.13 and 0.02 specify substantial, moderate and weak. In addition, Falk and Miller (1992) recommended the threshold of 0.10 as a minimum satisfactory level of R^2 value. Furthermore, Chin (1998) suggested the R^2 value of 0.67, 0.33 and 0.19 as substantial, moderate, and weak,

respectively. Table 4.25 presents the R^2 values of the endogenous latent variables in the model.

Table 4.25
Variance Explained in the Endogenous Latent Variables

Latent Variables	Variance Explained (R^2)
Entrepreneurial self-efficacy	.52
Perceived desirability	.33
Entrepreneurial career option	.43

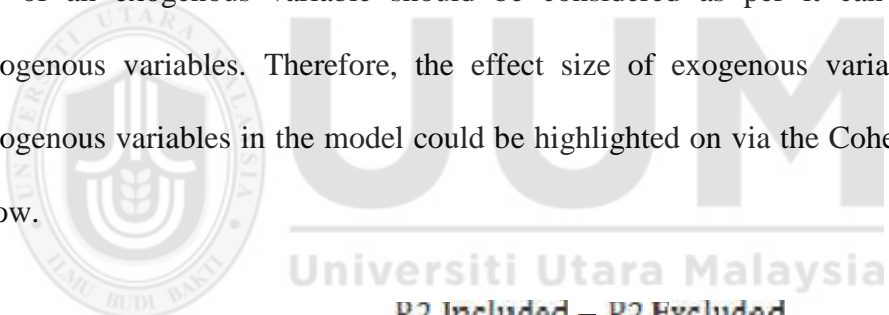
As presented in table 4.25 the R^2 value shows the two exogenous latent variables (EEK and EES) explain 52% and 33% variance in the mediating variables; entrepreneurial self-efficacy and perceived desirability respectively. Likewise, the holistic R^2 value (ECO) shows that all the five exogenous variables (EEK, EES, ESE, PDE and SEN) joined collectively in the model explain 43% variance in the endogenous latent variable (entrepreneurial career option). Consequently, based on these results for the assessment of the R^2 of endogenous latent variables entrepreneurial self-efficacy (.52), perceived desirability (.33) and entrepreneurial career option (.43), and suggested acceptable level of R^2 value (Cohen, 1988; Falk & Miller, 1992). Therefore, it is resolved that the model has a substantial predictive validity.

4.7.6 Assessment of Effects Sizes (f^2)

Effect size is described as the variances in R^2 among the main effects when a specific exogenous variable is present in the model; and when the variable is omitted from the model (Cohen, 1988; Wilson, Callaghan, Ringle & Henseler, 2007). It is assessed as the increase in R^2 value of the endogenous variable to which the path is

associated to; and in relation to the proportion of unexplained variance of the endogenous variable (Chin, 1998). The study considered the assessment of effect size to appraise whether the omitted exogenous variable has significant impact on the endogenous variable in the model (Hair et al., 2013).

In this study, the effect size of the exogenous variables on the endogenous variables in the model was obtained using the Cohen's effect size formula. Accordingly, Cohen (1988) proposed effect size value of 0.02 as small, 0.15 as medium, and 0.35 as large effect size. However, Chin et al. (2003) emphasis that the smallest effect size of an exogenous variable should be considered as per it can impact the endogenous variables. Therefore, the effect size of exogenous variables on the endogenous variables in the model could be highlighted on via the Cohen's formula below.


$$\text{Effect size} = \frac{R^2 \text{ Included} - R^2 \text{ Excluded}}{1 - R^2 \text{ Included}}$$

The result in table 4.26 demonstrates the effect size of the particular exogenous variable on the respective endogenous variable in the model. The result reveals that most of the exogenous variables are having small effect size on their respective endogenous variables in the model. Specifically, the table reveals the effect sizes of the four exogenous variables (EEK, EES, ESE, and PDE) in relation the ECO were small with exception of EES which demonstrates no effect between the exogenous variable and the endogenous variable in the model. In addition, the result reveals the effect sizes of EEK and EES as exogenous variables in association with ESE as

endogenous variable were medium and large respectively. Equally, the table also reports the effect sizes of EEK and EES as exogenous variables in association with PDE as endogenous variable were small and medium correspondingly.

Table 4.26
Effect size (f^2) of exogenous variables on endogenous variables

Variables	R-squared		f-squared	Effect size
	Included	Excluded		
EEK*- ECO	0.420	0.378	0.072	Small
EES*- ECO	0.420	0.421	-0.002	N/A
ESE*- ECO	0.420	0.401	0.033	Small
PDE*- ECO	0.420	0.367	0.091	Small
EEK*- ESE	0.524	0.494	0.330	Medium
EES*- ESE	0.524	0.311	0.448	Large
EEK*- PDE	0.327	0.298	0.043	Small
EES*- PDE	0.327	0.217	0.163	Medium

Note: ECO = Entrepreneurial Career Option, EEK = Entrepreneurial Knowledge, EES = Entrepreneurial Skills, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability.

4.7.7 Assessment of Predictive Relevance (Q^2)

Another relatively important aspect for evaluation of a structural model is the assessment of the model's predictive relevance which refers to as Q^2 (Hair et al., 2011). The commonly used measure for assessment of model's predictive relevance is the Stone and Geisser's Q^2 test (Hair et al., 2011; Hair et al., 2013), which assumes that a model must be able to efficiently predict each of the endogenous latent variable's indicators (Hair et al., 2011; Henseler et al., 2009). Accordingly, Hair et al. (2013) and Henseler et al. (2009) suggest that Q^2 values greater than zero (0) signify that the model has predictive relevance. Consequently, the study adopted the Stone-Geisser's Q^2 test via blindfolding procedure to measure the model's predictive relevance (Hair et al., 2013). Table 4.27 shows the cross-validated redundancy of the

endogenous latent variables (entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option).

Table 4.27
Construct Cross-Validated Redundancy

Total	SSO	SSE	1-SSE/SSO
ESE	3017	2211.46	0.27
PDE	2586	2121.46	0.18
ECO	3017	2398.28	0.21

Note: ECO = Entrepreneurial Career Option, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability

The results in table 4.27 above indicate that the Q^2 values for all the endogenous latent variables are greater than zero entrepreneurial self-efficacy (0.27), perceived desirability (0.18) and entrepreneurial career option (0.21); thus, signifies a substantial predictive relevance of the model (Hair et al., 2013; Henseler et al., 2009).

4.7.8 Assessment of Goodness-of- Fit Index (GoF)

Goodness of fit index (GoF) remained an early attempt to produce a global fit statistic that was less profound to sample size. Tenenhaus, Amato and Esposito Vinzi (2004) described GoF as the geometric mean of the average communalities and the average endogenous latent variables. Accordingly, Joseph et al. (2010) suggest the possible range of GoF values is 0 to 1, with higher values indicating better fit. Typically, GoF values higher than 0.90 are considered better.

Recently, the development of other fit indices has led to a decline in usage of GoF for several reasons (Chen, 2000). Nevertheless, there are several opinions on the usefulness of GoF index on the validating model (Hair et al., 2013; Henseler &

Sarstedt, 2013). For instant, Tenenhaus et al. (2004) suggest that GoF index could be used to compare predictive relevance of different models in PLS-SEM. In contrast, other scholars argue that no such a need for global measure of GoF index in PLS-SEM analysis (Hair et al., 2013; Sarstedt et al., 2014). Equally, Henseler and Sarstedt (2013) challenged the applicability of GoF index in PLS-SEM analysis as their replicated results showed that GoF index has no usefulness in model validation. Therefore, based on the above arguments the study do not consider GoF index for model validation, but other more relevant indices for PLS-SEM model validation.

4.7.9 Summary of the Hypotheses

The results hypotheses tested in the study were summarized and presented in table 4.28 below.

Table 4.28
Summary of the findings of the study

Hypothesis	Statement of hypothesis	Decision
H _{1a}	There is significant relationship between EEK and ECO	Supported
H _{1b}	There is significant relationship between EES and ECO	Not supported
H _{2a}	There is significant relationship between EEK and ESE	Supported
H _{2b}	There is significant relationship between EES and ESE	Supported
H ₃	There is significant relationship between ESE and ECO	Supported
H _{4a}	ESE mediates the relationship between EEK and ECO	Supported
H _{4b}	ESE mediates the relationship between EES and ECO	Supported
H _{5a}	There is significant relationship between EEK and PDE	Supported
H _{5b}	There is significant relationship between EES and PDE	Supported
H ₆	There is significant relationship between PDE and ECO	Supported
H _{7a}	PDE mediates the relationship between EEK and ECO	Supported
H _{7b}	PDE mediates the relationship between EES and ECO	Supported
H _{8a1}	SEN moderates the relationship between EEK and ECO	Supported
H _{8a2}	SEN moderates the relationship between EES and ECO	Not supported
H _{8b}	SEN moderates the relationship between ESE and ECO	Not supported
H _{8c}	SEN moderates the relationship between PDE and ECO	Not supported

Note: ECO = Entrepreneurial Career Option, EEK = Entrepreneurial Knowledge, EES = Entrepreneurial Skills, ESE = Entrepreneurial Self-efficacy, PDE = Perceived Desirability, SEN = Supportive Environment.

The summary of results for hypotheses tested in the study has indicated sufficient support for most of the hypotheses of the study. The findings supported seven out of eight main effects hypotheses in relationship between: (1) EEK and ECO; (2) EEK and ESE; (3) EES and ESE; (4) ESE and ECO; (5) EEK and PDE; (6) EES and PDE; and (7) PDE and ECO. However, the relationship between EES and ECO was not supported. Similarly, the results of the analysis of this study supported all the indirect effects that were hypothesized: (1) ESE mediates the relationship between EEK and ECO; (2) ESE mediates the relationship between EES and ECO; (3) PDE mediates the relationship between EEK and ECO and (4) PDE mediates the relationship between EES and ECO. However, the results demonstrated no support for most of the hypotheses stated moderation relationship among the variables.

4.7.10 Summary of the Chapter

The chapter was concerned with the statistical analysis of the quantitative data obtained from the respondents using structural survey questionnaires distributed across six universities in Northern Nigeria. The chapter presented the data collection process, data cleaning process, non-response bias and the descriptive analysis of the constructs. In addition, the chapter presented the results of the measurement model's assessment in relation to reliability and validity of the model. Furthermore, the chapter presented the results of the inner model appraisal in terms of direct relationship, mediation and moderation effects among the constructs in the model. Finally, the chapter presented coefficient of determination (R^2), effects size (f^2), predictive relevance (Q^2) and Goodness of Fit (GoF) index of the model.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

5.1 Introduction

The main focus of this chapter is to discuss on the findings of the study based on the research objectives, hypotheses of the study, and the related literature reviewed in the study. Equally, the chapter discusses on the theoretical and practical implications of the findings of the study. The chapter also highlights on limitations of the research and suggests direction for future study. Finally, the chapter presents the conclusion of the study.

5.2 Recapitulation of the Study

This section presents the summary of the research findings based on the objectives of the study and research questions. The main objective for conducting this study is to investigate the mediating effect of entrepreneurial self-efficacy and perceived desirability, and moderating role supportive environment on the relationship between entrepreneurial knowledge, entrepreneurial skills and entrepreneurial career option. The survey was conducted using final year students across six randomly selected universities in northern Nigeria and their responses in relation to the variables were used as main source of information for testing several hypotheses formulated in the study. The model of this study is underpinned by Human Capital Theory (HCT), which advocates human capital can be improve through proper and quality education

and training (Bandura, 1986; Katz 1992; Linan, 2004); and Social Cognitive Career Theory (Lent et al., 1994; McMullen & Shepherd, 2006).

Based on the research questions of the study, a total of eight objectives were stated and the eight corresponding hypotheses were formulated; which far along divided into 16 sub-hypotheses that were tested in the study. Specifically, four independent variables, namely EEK, EES, ESE and PDE were hypothesized to have a significant relationship with ECO. In addition, the associations between entrepreneurship education via EEK and EES with ECO were also hypothesized to be mediated by ESE and PDE. Lastly, the associations between EEK, EES, ESE and PDE with ECO were hypothesized to be moderated by supportive environment. Accordingly, the formulated hypotheses in the study were tested statistically using PLS-SEM package (Smart PLS 2.0). The results empirically supported 12 hypotheses, out of which seven are main effects, four mediating effects and one moderator effect. However, 4 hypotheses were not supported by the results of the study.

5.3 Discussion of the Findings

In this section, the findings of the study will be presented and discussed based on the objectives of the study as follows:

5.3.1 The Influence of Entrepreneurial Knowledge on Entrepreneurial Career Option

To begin with the first hypothesis of this study, which postulates that a significant relationship exist between EEK and ECO. As predicted, the result in relation to the

hypothesis tested was found to be positively significant. Empirically, the result supported H_{1a} and also coincides with the findings of the previous studies that argue EEK positively influences ECO (Abdulai, 2015; Gibcus et al., 2012; Jones et al., 2011; Molaei et al., 2014; Packham et al., 2010; Rae et al., 2011; Rae & Woodier-Harris, 2013; Sanchez, 2011; Yakubu & Norashidah, 2016). The result also suggests that acquired EEK positively influences students' discernment for entrepreneurial career and enhances ECO. Equally, the result supports that EEK positively reinforces students' attitudes toward entrepreneurial career within a developing country such as Nigeria.

In addition, the positive and significant relationship between EEK and ECO reported in this study confirmed the research hypothesis and provided answer to the research question. The result also confirmed that earlier evidences suggest entrepreneurial attributes can be influenced through EEK (Engle et al., 2010; Gorman et al, 1997; Iakovleva et al., 2011; Jones et al., 2008; Lee et al., 2005). Furthermore, the findings testified that embracing EEK in our universities and the educational institutions in general could positively enhances the students' attitudes toward ECO and hence increases the level of potential entrepreneurs in the nations. Equally, the result further informs the academia and other stakeholders to design and implement a more effective EEK program that could have more impact on students' attitude toward ECO; that results in increasing the level of entrepreneurial activities in the economy and consequently reduces the rates of unemployment among graduates.

In nutshell, the result affirms further support for the assertion of the HCT (Bandura, 1986; Katz 1992; Linan, 2004; Shaver & Scott 1992) which advocates human capital can be enhanced through appropriate and eminence education and training; hence inspires nation's investment on human capital asset through education, training and development (Olaniyan & Okemakinde, 2008). Furthermore, by validating the positive influence of EEK on ECO the study also demonstrates the applicability of HCT (based on human resource) into other field of studies such as entrepreneurship education and training. In addition, the result shows that ECO can be improved through proper and quality education and training; hence the students that acquire proper and quality EEK are more likely to become entrepreneurs and those without EEK.

5.3.2 The Influence of Entrepreneurial Skills on Entrepreneurial Career Option

In line with the first objective of this study also, second hypothesis states that there is significant relationship between EES and ECO (H_{1b}). Nevertheless, it is important to recall that EES refers to individual's ability to develop a concept and a business plan, perform environmental scanning and opportunity recognition; and networking. In contrary with H_{1b} , the outcome of the PLS bootstrapping in figure 4.6 indicates no significant relationship between EES and ECO ($\beta = -0.041$, $t = 0.604$, $p < 0.55$); hence the hypothesis (H_{1b}) is not supported. Indeed, this result does not support other previous studies which reported positive and significant relationship between EES and ECO (Abdulai, 2015; Bakker & Schaufeli, 2010; Block et al., 2011; Dickson et al., 2008; Fayalle et al., 2006; Giacomini et al., 2011; Hattab, 2014; Iakovleva, 2011; Liñán et al. 2010; Marina et al., 2013; Molaei et al., 2014; Rae & Woodier-Harris

2013; Schwarz et al. 2009); but however, it is consistent with those studies found no significant relationship between EES and ECO (Beynon et al., 2014; Dunn & Holtz-Eakin 2000; Graevenitz et al., 2010; Packham et al., 2010; Sesen & Pruett 2014; Solomon, 2006; Weaver et al., 2010).

In addition, since there are arguments concerning the finding and the result opposes that acquired EES influences student's attitude towards ECO; this may perhaps be explained a number reasons that are responsible for the finding. A likely explanation for this outcome could be established on the assertion that EES as an action oriented process (Auken, Fry & Stephens, 2006; Bandura, 2006; Wilson et al., 2007), which is better adapted through learning by doing rather than just a paper work (Rae, 2000; Lockwood, 2006). In this case, normally the teaching and learning process in many relatively low industrialized nations such as Nigeria takes within the class rather than liaising with the industries. In fact, there is a barrier between industries and the institutions of learning in some places (SMEDAN, 2012); this seriously affects EES in the learning process. For instance, from the result of this study the negative beta value ($\beta = -0.041$, $t = 0.604$, $p < 0.55$) indicates that the participated students lack EES which may influences their attitude toward ECO.

Furthermore, the non-support for the hypothesis may be as a result of the fact that EES is a process relates to environmental scanning and opportunity recognition; these are fundamental issues that transform to business plans which are critical affluence for ECO. In this angle, the economic situation as at when the data were collected indicated that the country was in recession; that will be seen to many

potential entrepreneurs as threats and highly risky for one to starts a business. Alternatively, the reason for the hypothesis statement not supported may be related to the procedural differences (Abdullai, 2015; Chun-Mei et al., 2011; Nasiru et al., 2015), such as absence of intervening or controlling variable since the hypothesis measures a direct relationship between EES and ECO. Nevertheless, this does not imply that EES is not fundamental issue for ECO; therefore this study has decided test an indirect relationship between EES and ECO through ESE and PDE as intervening variables.

5.3.3 The Influence of Entrepreneurial Knowledge on Entrepreneurial Self-efficacy

To achieve the second objective of this study, the third research hypothesis (H_{2a}) which predicts EEK significantly influences ESE was empirically tested. Based on the outcome from PLS-SEM bootstrapping, EEK is found to be positively related to ECO; hence H_{2a} is supported. Equally, it is worthy reflect that ESE is viewed as the individual's confidence on his or her ability to successfully performs entrepreneurial tasks such as identification of new business opportunities, creating new products, thinking creatively, and development and commercialization of new ideas (Bandura, 1977; Chaney et al., 2007; Kickul et al., 2009; Kreitner & Kinicki, 2007). The result demonstrates that the acquired EEK improves the individual student's ability to identify new business opportunities, creative thinking and the ability to commercialize new creativities.

The positive and significant relationship of EEK with ESE reported by this study is also consistent with earlier studies such as Zhao et al. (2005); Wilson et al. (2007); Barbosa, Gerhardt and Kickul (2007); Mueller & Conway (2008); Naktiyok et al. (2010); Izquierdo and Buelens (2011); Jiang and Park (2012); Drnovsek et al. (2010); Olakitan, (2014). In addition, the finding provides support for Social Cognitive Career Theory (SCCT) is considered to be an extension of Bandura's Social Cognitive Theory (Lent et al., 1994). SCCT suggests self-efficacy can be improved through individual's learning experiences which are acquired through education and training. Accordingly, the acquired EEK increases the degree to which an individual student feels worthy for being an entrepreneur as an alternative career option.

Furthermore, the finding equally demonstrates that EEK enables the students' ESE to improve through learning experience, new knowledge and know-how that leads to increase in individual student ability to identify new business opportunities, creativeness and commercialization of new ideas. In view of this, EEK is crucial factor in improving and sustaining individual's self-confidence to successfully carrying out entrepreneurial tasks as a career option. Therefore, the stakeholders in the educational system should incorporate the teaching methods and the learning experiences that could positively influence the individual student's ESE; thus increases the student's self-confidence to successfully carrying out entrepreneurial tasks as an alternative career option.

5.3.4 The Influence of Entrepreneurial Skills on Entrepreneurial Self-efficacy

The study also examined the relationship between EES and ESE as hypothesized in H_{2b}. The hypothesis predicted that there is significant relationship between EES and ESE. PLS path coefficient analysis was used test the hypothesis. The result indicates a significant and positive association occur between EES and ESE ($\beta = 0.576$, $t = 12.482$, $p < 0.000$); therefore, the H_{2b} is supported. Accordingly, the significant and positive association suggests that EES positively influences ESE. In other words, the acquired EES increases the level ESE among the participated students. The result therefore demonstrates that the students participate in acquired EES exhibit higher capability to successfully perform entrepreneurial tasks such as identification of new business opportunities, new products, and creative thinking as compared with non-participated students.

This empirical result reporting significant and positive relationship between EES and ESE is line with the findings of other previous studies that also reported significant and positive relationship between the variables. For instance, Setiawan (2014) examined the relationship between EE and ESE among Indonesian university students and the findings of the study showed that there is a positive and significant relation between EE and ESE. Similar, Ali (2013) conducted a study on the relationship between EE, entrepreneurial attitude, social norms, ESE and entrepreneurial intention. The study reported significant relationship between EE and ESE. Furthermore, the finding revealed ESE significantly predicts entrepreneurial career intention.

In addition, Shinnar et al. (2014) examined the relationship among EE, ESE, gender and entrepreneurial career intentions. The results showed that EE has effect on ESE for both gender, however, the effect was statistically significant only for the male students. Fayolle and Gailly (2015) reported a positive significant relationship exist between EE and ESE. However, the result highlights significant counter effects of the EE on students who had previous entrepreneurial exposure. Similarly, Díaz-García et al. (2015) conducted a longitudinal study to examine the impact of participation in the EE program on the participants' ESE and entrepreneurial career intention. The study reported a significant and positive relationship between EES and ESE.

Furthermore, the finding of this study provides further support for Human Capital Theory assertion, which places emphasis on the importance of proper and quality education and training to improve human capital such as entrepreneurial self-efficacy (Bandura, 1986; Katz 1992; Linan, 2004). The study also highlights on the importance of students to acquire EES through education training and experience, therefore improves their ESE which result in increases in the level of ECO (Abaho et al., 2015; Kickul et al., 2008; Norazah, Mohamed Amin & Zaidan, 2011). In addition, the finding also confirms that students acquired EES through our university education are more likely to higher ESE than those students that did not acquired EES (Dempsey & Jennings, 2014; Díaz-García et al., 2015; Eric, Miruna & Olivier, 2012).

5.3.5 The Influence of Entrepreneurial Self-efficacy on Entrepreneurial Career Option

This section examined and discussed the relationship between ESE and ECO. ESE is regarded as behavioral pattern that can transmute individual's belief in the likelihood to accomplish the tasks requirement to efficaciously initiate and launch a new business venture (Brice & Spencer, 2007; Nabi et al., 2010; Olakitan, 2014; Rae & Woodier-Harris, 2013). Consequently, the hypothesis 3 (H₃) of the study hypothesized that there is significant relationship between ESE and ECO. As postulated, the empirical result reveals that a significant and a positive relationship was found in the association between ESE and ECO ($\beta = 0.223$, $t = 2.809$, $p < 0.01$); hence the hypothesis (H₃) is supported. This finding validates the hypothesis and also provides answer to the third research question of the study.

This empirical result concurs with the findings of other several previous studies that reported ESE positively influences ECO. For instance, Sesen (2013) empirically tested an inclusive model on the entrepreneurial career intentions among the university students. The study reported that personality traits such as locus of control and ESE have significant influences on students' entrepreneurial career intentions. Similarly, Izquierdo and Buelens (2011) conducted a study on the relationship between ESE, entrepreneurial capacity and ECO. The study reported a significant and a positive association exist among ESE, entrepreneurial capacity and preference for entrepreneurial career option.

In addition, Nabi and Liñán (2013) studied the relationship among the risk perception, ESE and economic environment in determining the entrepreneurial career intents. The study also reported that ESE is strongly associated with entrepreneurial career intention. Furthermore, Ahmad et al. (2014) explored entrepreneurial career intentions among Malaysians Using the social cognitive method based on GEM data. The study reported positive relationship between ESE and entrepreneurial career intentions. Equally, the finding of this study shows support for Shane et al. (2003) which argued that ESE was probably the “single best predictor in the entire array of variables” to study entrepreneurial career intentions.

In general, the empirical result provides further support for the affirmations of the career related theories such as social learning theory (Bandura, 1977); Social Cognitive Theory (Bandura, 1982) and Social Cognitive Career Theory (SCCT) (Lent et al., 1994). SCCT asserted that individual career choice depends on the person’s beliefs about the consequences of engaging in certain activities and the individual self-efficacy beliefs. In addition, the significant positive relationship between ESE and ECO reported in this study is not surprising because previous studies confirmed similar results (Naktiyok et al., 2010; Izquierdo & Buelens, 2011; Drnovsek et al., 2010; Olakitan, 2014). Similarly, Yakubu and Norashidah (2016) reported that ESE significantly influences students’ entrepreneurial career preference.

Furthermore, as stated in literature reviewed that ESE plays an important role in career-related task such as entrepreneurial process by prompting the individual’s

choice, determination, and perseverance (Bandura, 1997; Chaney et al., 2007). Therefore, the empirical result of this study also highlights the importance of the possession of ESE by university students, particularly in developing nations such as Nigeria since ESE influences the students' decision in relation to ECO. In nutshell, the result suggests that university students in the Nigerian context need to have self-confidence for the likelihoods of effectively accomplish tasks related entrepreneurial career such as identifying business opportunities and readiness to take business risks; hence this leads to a higher ECO among the students.

5.3.6 The Mediating Effect of Entrepreneurial Self-efficacy on Relationship between Entrepreneurial Knowledge and Entrepreneurial Career Option

The fourth objective of this study is to examine the mediating role of ESE on the relationship between entrepreneurship education and entrepreneurial career option. To realise this objective, the fourth hypothesis (H_{4a}) which postulated ESE mediates the relationship between EEK and ECO was formulated to answer the corresponded research question. The proposed hypothesis was tested using PLS-SEM bootstrapping method (Hair et al., 2010; Preacher & Hayes, 2008). Accordingly, the relationship between independent latent variable to mediating variable and mediating variable to dependent latent variable as a criteria need to be established for mediation to hold (Hayes, 2009, Hair et al., 2010; Preacher & Hayes, 2008). Thus, mediation effect is established whenever the predictor variable has influence on the dependent variable through a mediating variable (Baron & Kenny, 1986).

From the findings of the study, the empirical results show that there is a significant positive relationship between EEK and ESE; and also a significantly positive relationship exists between ESE and ECO. Therefore, as hypothesized the empirical result shows that ESE mediates the relationship between EEK and ECO ($\beta = 0.049$, $t = 2.263$, $p < 0.05$). Thus, based on this result the H_{4a} is thereby supported. However, this finding is sustained by several previous studies that reported ESE influences relationship between EEK and entrepreneurial career (BarNir et al., 2011; Chun-Mei et al., 2011; Dyer et al., 2008; Keat et al., 2011; Mohda et al., 2014; Mushtaq et al., 2011; Rauch & Frese 2007; Zhao et al., 2005).

This empirical finding implies that ESE influences students with EEK to be more inclined to ECO. In other words, students with higher ESE are more likely to have stronger positive toward ECO. To this end, teachers and other stakeholders need to recognize the critical role of ESE towards prompting the students' attitude in relation to ECO. In addition, teachers need to adapt teaching methods and other instructional materials that will enhance the students' ESE and that subsequently influence their attitude toward ECO. Similar, the finding of this study also implies that students with higher ESE are more likely to successfully start a new business venture than the students with lower ESE. Therefore, there is need for the universities and other stakeholders to develop and implement curricula activities that promote students' ESE and subsequently prompting their assertiveness concerning ECO.

Furthermore, the finding indicates ESE enhances students' assertiveness toward ECO. In other words, individual student's self-confidence to effectively take-off a

business venture has impact on the student's career decision such as ECO. Thus, supporting the existing career-related behavior theories such as social cognitive theory (Bandura, 1986; Lent et al., 1994), the theory highpoints the significance of self-beliefs and self-thought in nurturing personal motivation and subsequently controls behaviour. Similarly, the finding also shows support for social learning theory (Bandura, 1977; Bandura, 1982), which highlights on the importance of person's belief in his or her ability for him or her succeed in a particular career.

Equally, the finding shows support for Social Cognitive Career Theory (SCCT; Lent et al., 1994). The theory promotes that self-efficacy facilitates the association between the individual's learning experiences which are acquired through education and training and essential outcomes, such as career decision and choice. SCCT assumes that individual's career choice is influenced by ESE and the expected outcomes, a career potentially label depends on individual's utility expectation from the career activity (Brown & Lent, 2006; Douglas & Shepherd, 2002). In addition, BarNir et al. (2011) empirical supported SCCT-based mediational model and confirmed that ESE mediates the link between exposure to entrepreneurial role models and individual's entrepreneurial career intentions. Conclusively, the existence of ESE serves as a way through which EEK positively influences ECO among university students in Nigeria.

5.3.7 The Mediating Effect of Entrepreneurial Self-efficacy on Relationship between Entrepreneurial Skills and Entrepreneurial Career Option

With regards to the fourth objective of this study earlier stated also, the H_{4b} was formulated and tested. The proposed hypothesis assumes that ESE mediates the relationship between EES and ECO. Accordingly, this assumption was tested using PLS-SEM bootstrapping method (Hair et al., 2010; Preacher & Hayes, 2008). As criteria for the mediation to hold, the relationship between independent latent variable and mediating variable, and mediating variable and dependent variable were established (Hair et al., 2010; Hayes, 2009; Preacher & Hayes, 2008). Therefore, mediation is said to establish whenever the predictor variable has influence on the dependent variable through a mediating variable (Baron & Kenney, 1986).

The empirical evidence from the results of this study indicates that there is a significant positive relationship between EES and ESE. The result also establishes a significantly positive relationship between ESE and ECO; hence, as hypothesized the result shows that ESE mediates the relationship between EES and ECO ($\beta = 0.130$, $t = 2.843$, $p < 0.00$). Thus, based on this empirical result the H_{4b} is thereby supported. This finding is supported by several previous studies that reported ESE influences relationship between EES and entrepreneurial career (Akmaliah & Hisyamuddin 2009; Barbosa et al., 2007; Drnoviaek et al., 2010; Izquierdo & Buelens 2011; Jiang & Park 2012; Krueger et al., 2013; Kunday & Çakir 2014; Monsen & Urbig 2009; Nabi & Liñán 2013; Shane, Locke et al., 2003).

Furthermore, Mohda et al. (2014) investigated the mediating effect of ESE on the relationship between personal values and entrepreneurial orientations. The study found that ESE has a significant mediation influence on the relationship between personal values and entrepreneurial orientations. Similarly, Austin and Nauta (2015) examined the mediating role of ESE on relationship between entrepreneurial exposure and female students' entrepreneurial career intentions. The findings reported that ESE mediates the association between role-model exposure and females' entrepreneurial career preference. In same vein, Yakubu and Norashidah (2016) conducted a study on mediating effect ESE on the relationship between entrepreneurship education and ECO. The study found that ESE significantly mediates the relationship between EES and ECO.

This finding indicates that ESE serves as a medium through which the entrepreneurial skills learn in our universities can be translated into entrepreneurial career actions by the students upon graduation. Accordingly, the result indicates that the entrepreneurship educators and the other stakeholders in the field should pay more attention to the concept of ESE been the medium through which EES can transformed into ECO; and eventually into entrepreneurial career. Equally, this shows that individual student self-confidence for his or her ability to effectively carry out entrepreneurial career activities should be encouraged and be promoted during teaching and the learning process; hence promotes ECO among the students.

In addition, the present mediation test result of ESE on the relationship between EES and ECO has been supported by the underpinning theories of this study. For

instance, according to Social cognitive theory (Bandura, 1986) self-efficacy remained as the most important stimulus on career-related behavior. In this case, ESE serves as the most important stimulus for students' on their career-related decision; and eventually preference for entrepreneurial career as an alternative career option. Equally, SCCT proven that individual's self-efficacy beliefs is one of the major determining factors for career-related behavior. In this direction, individual considers ECO only if he or she has the self-confidence for effectively carry out entrepreneurial career successfully as an alternative career option.

5.3.8 The Influence of Entrepreneurial Knowledge on Perceived Desirability

The fifth objective of this study is to examine the relationship between EEK, EES and PDE among the final undergraduate students in the Nigerian universities. To achieve this objective and also to answer the corresponding research question in the study, the fifth hypothesis (H_{5a}) was formulated. The hypothesis assumed that there a significant relationship between EEK and PDE. It is worthy to recall that PDE reflects the level of personal attractiveness for the status of an entrepreneur or engaging in entrepreneurial activities. As predicted, the empirical result in relation to the hypothesis tested reported a positive and significant link between EEK and PDE ($\beta = 0.216$, $t = 3.974$, $p < 0.000$). This finding of the study indicates support for the hypothesis and also corresponds with the findings of the previous studies that reported a positive and significant relationship between EEK and PDE (Gibb et al., 2009; Lange et al., 2011; Lewrick et al., 2010; Lourenc_o et al., 2013; Souitaris et al., 2007).

In addition, the finding supported several other studies that recognized the position of EEK in the promotion of positive attitude towards entrepreneurial career as a potential alternative career option for university and college graduates (Alvarez & Jung, 2003; Göksel & Aydın, 2011; Jones et al., 2008). Similarly, Rae et al. (2011) examined the impact of EEK on graduates' attitudes toward career choice and reported that acquired EEK has a positive effect on attitudes towards entrepreneurial career. Equally, Abdulai (2015) investigated the influence of EEK in relation to individual's attractiveness for entrepreneurial career and the study reported that EEK significantly affects the students' perception for self-employment and hence promotes their attractiveness for entrepreneurial career.

The result suggests that acquired EEK positively influences the individual students' personal attractiveness for being an entrepreneur as preferred alternative career option. In other words, the EEK that is taught in our universities invariably increases the level of the students' attractiveness towards the status of being an entrepreneur. Accordingly, the extent at which individual student perceives entrepreneurial career as an attractive alternative career option the more the number of the students choice entrepreneurship as their preferred career option (Rae et al., 2011; Xavier et al., 2009).

5.3.9 The Influence of Entrepreneurial Skills on Perceived Desirability

The section discussed the relationship between EES and PDE as hypothesized in H_{5b} of this study. The hypothesis projected that there is significant relationship between EES and PDE. PLS path coefficient analysis was used test the hypothesis. The result

shows a significant and positive relationship occur between EES and PDE ($\beta = 0.417$, $t = 7.051$, $p < 0.000$); therefore, the H_{5b} is supported. Accordingly, the positively significant relationship suggests that EES influences PDE positively. In other words, the assimilated EES nurtures the level of the students' attractiveness towards the status of being an entrepreneur. The result therefore demonstrates that the students participate in acquired EES exhibit higher individual affection toward entrepreneurial venture as suggested by other previous studies (Giagtzis, 2013; Linan et al., 2011; Seta, 2013).

The positive and significant relationship between EES and PDE reported in this study concurs with the findings of previous studies that also reported positive and significant relationship between the EES and PDE. For example, Athayde (2009) conducted a quasi-experimental design study to examine the relationship between EES and PDE among pupils from public schools in UK and findings reported that experimental group that participated in a "Youth Enterprise Company Program" shown higher PDE than the pupils in the control group. Similar, Sánchez (2011) examined the influence of EES on desire to create new business venture among Spanish university students and the results indicated that students who acquired EES exhibited higher desire for entrepreneurial career than the control group.

In addition, Fitzsimmons and Douglas (2011) investigated the relationship between desirability and feasibility in the formation of entrepreneurial career intentions. The study found EES is significantly related to both PDE and perceived feasibility. Equally, Marina et al. (2013) reported significantly positive relationship between

EES and desire for entrepreneurial career. In the same vein, Atef and Al-Balushi (2015) conducted a study on relationship between accessibility for EES and the factors affecting entrepreneurial career intentions among university students. The finding revealed a positively significant relationship between EES and students' desire to pursue entrepreneurial career.

Furthermore, the finding demonstrates that EES significantly affects the three motivational constructs considered in TPB - personal attraction, subjective norms and perceived behavioral control (Ajzen, 1991). PDE echoed on the personal attractiveness for entrepreneurial career and very closely relates to Ajzen's attitude toward behavior and subjective norm constructs (Krueger et al., 2000). Equally, the study also highlights on the importance of students to be trained on EES in order to enhance their PDE and feasibility for entrepreneurial career suggested by Linan's entrepreneurial event model; hence the finding shows support for the model. In addition, the finding also confirms that students that acquired EES in their university education are more likely to have favorable attitudes toward entrepreneurial career; and consider status of an entrepreneur as more attractive career option.

5.3.10 The Influence of Perceived Desirability on Entrepreneurial Career Option

This section discussed the association between PDE and ECO as in line with the sixth objective of this study which was set to examine the relationship between the two variables. PDE reflects the degree of individual's attractiveness towards being an entrepreneur as preferred career option (Giagtzi, 2013; Linan et al., 2011; Seta,

2013). Accordingly, the hypothesis 6 (H_6) of this study assumed that there is significant relationship between PDE and ECO. As hypothesized, the empirical result discloses that a significant and a positive relationship was found between PDE and ECO ($\beta = 0.417$, $t = 7.051$, $p < 0.000$); therefore the sixth hypothesis (H_6) is hereby supported. This finding validates the sixth hypothesis and also provides answer to the sixth research question of the study.

This empirical result demonstrates support for the hypothesis by reporting a positive and significant relationship between EEK and PDE. It is also in line with the previous studies that reported a positive and significant link between EEK and PDE. For instant, Fitzsimmons and Douglas (2011) reported a significant and a positive relationship between PDE, perceived feasibility and the students' entrepreneurial career intentions. Similarly, Tong et al. (2011) empirical reported a strong positive relationship between the personality traits such as PDE and ECO. In the same vein, Guerrero (2008) examined the influence of PDE and feasibility on student's entrepreneurial career intention across different countries and study reported a significant association between PDE and the entrepreneurial career choice.

In addition, Seta (2013) examined the relationship among PDE, ESE and entrepreneurial career intentions. The findings showed that there is positive significant association between PDE, ESE and the students' entrepreneurial career intent. Equally, Wongnaa and Seyram (2014) conducted a study on factors influence students' entrepreneurial career decision. The findings revealed that personality traits such as PDE and parental support have significant positive effect on students'

entrepreneurial career preference. In another study, Engle et al. (2010) appraised Ajzen's model of planned behavior in order to predict entrepreneurial career intentions across twelve countries. The results established that there is a significant and positive relationship between three antecedents of entrepreneurial behavior and the students' entrepreneurial preference across different countries.

Furthermore, the finding shows support for other established career related theories such as Theory of Planned Behavior (Ajzen, 1991). This theory highlights on personal attitude and perceived social norms as the major influence for individual to act on a particular behaviour such ECO. Similarly, the theory of entrepreneurial event (Shapero & Sokol, 1982) emphasizes that the individual's views of attractiveness and feasibility to act on opportunities influences entrepreneurial career option. The model's central assumption is that entrepreneurial event can be predicted by the individual PDE and feasibility to perform the entrepreneurial behavior (Ajzen & Fishbein, 1980).

The result suggests that students' personal attractiveness for being an entrepreneur has significant influences on their entrepreneurial career decision and ultimately entrepreneurial career preference. Therefore, it is of paramount important for universities and other stakeholders in the educational system to in place such as curricular activities in our universities that boost the level of the students' PDE for the status of being an entrepreneur. Accordingly, individual's attractiveness about entrepreneurial career is really important and established the basis for individual's entrepreneurial career decision.

5.3.11 The Mediating Effect of Perceived Desirability on Relationship between Entrepreneurial Knowledge and Entrepreneurial Career Option

The seventh objective of this study is to examine the mediating role of PDE on the relationship between entrepreneurship education and entrepreneurial career option. To realise this objective, the fourth hypothesis (H_{7a}) which proposed PDE mediates the relationship between EEK and ECO was formulated to response the corresponded research question of this study. In accordance with Hair et al. (2010), PLS-SEM bootstrapping method was used to test the relationship between EEK and ECO through PDE as an intermediating variable. Accordingly, as a criteria the relationship between independent variable and mediating variable and; relationship between mediating variable and dependent variable need to be established before mediation effect can be established (Hayes, 2009, Hair et al., 2010; Preacher & Hayes, 2008). Therefore, mediation effect is established when the predictor variable has effect on the dependent variable through a mediating variable (Baron & Kenny, 1986).

The empirical results show that there is a significant positive relationship between EEK and PDE; and also a significantly positive relationship exists between PDE and ECO. Therefore, as hypothesized the empirical result reveals that PDE mediates the relationship between EEK and ECO ($\beta = 0.070$, $t = 3.014$, $p < 0.00$). So, based on this empirical finding the H_{7a} is thereby supported. Nevertheless, this finding is supported by several previous studies that reported PDE influences relationship between EEK and entrepreneurial career (Gabrielsson & Politis, 2011; Guerrero,

2008; Hatala, 2005; Krueger 1993; Olufunso, 2010; Scherer et al., 1989; Segal et al., 2002).

In addition, Farmer et al. (2011) reported that PDE mediates the relationship between multiple entrepreneurial identities and entrepreneurial career intentions among university students. Similarly, Shook and Bratianu (2010) conducted a study to examine the entrepreneurial intent of Romanian university students. The finding of the study demonstrated that desirability plays a significant role in the relationship between ESE and the entrepreneurial intent. Zellweger, Sieger and Halter (2011) in their study proved that role models affect entrepreneurial career intentions only if it affects attitudes such as PDE. Hence, PDE mediates the relationship between role and students' entrepreneurial career intents.

This empirical finding indicates that PDE stimulates students with EEK to persuade entrepreneurial career as an alternative career option. In other words, students with higher PDE are more likely to have stronger positive toward ECO. To this end, universities and other stakeholders need to recognize this important role play by PDE in stimulating the students' attitude toward ECO. In addition, teachers should consider it essential to adapt instructional methods and materials that enhance the students' PDE and that subsequently influence their attitude toward ECO. Equally, the finding of this study also implies that students with higher PDE are more likely to successfully start a new business venture than the students with lower PDE. Therefore, there is need for the universities, policymakers and other stakeholders to

develop and implement curricula activities that promote students' PDE and subsequently stimulating their assertiveness for ECO.

Furthermore, the finding indicates support SCCT (Lent et al., 1994) and utility maximization theory (Douglas & Shepherd, 2002). The two theories assume that individual's career choice is influenced by need to succeed in a career (Brown & Lent, 2006) and the expected outcomes (Douglas & Shepherd, 2002); hence, a career potentially label depends on individual's utility expectation from the career activity (Brown & Lent, 2006; Douglas & Shepherd, 2002). In this study, the expected outcomes from an entrepreneurial career which was translated into the PDE construct which is consistent with the prior studies (Lent, Lopez & Bieschke, 1993; Lent et al., 1994). In addition, the finding shows backing for other career related theories such as theory of entrepreneurial event (Shapero & Sokol, 1982) and the entrepreneurial event model (Linan, 2008). Accordingly, the theories assume that personal and situational variables ultimately influenced entrepreneurial career decisions by prompting key attitudes and perceptions (Ajzen, 1991; Krueger et al., 2000); hence, EE affects entrepreneurial career intention only if they change key attitudes and perceptions such as PDE for self-employment (Linan, 2008). Therefore, the finding supported these existing theories by empirically proven that PDE serves as the medium through which EEK can influences students' entrepreneurial career decision.

5.3.12 The Mediating Effect of Perceived Desirability on Relationship between Entrepreneurial Skills and Entrepreneurial Career Option

In regards to the seventh objective of this study as stated earlier, the H_{4b} was formulated and tested. The proposed hypothesis assumes that PDE mediates the relationship between EES and ECO. Accordingly, this hypothesis was tested using PLS-SEM bootstrapping method (Hair et al., 2010; Preacher & Hayes, 2008). As criteria for the mediation to be established, the relationship between independent latent variable and mediating variable, and mediating variable and dependent variable need to be established (Hayes, 2009, Hair et al., 2010; Preacher & Hayes, 2008). Therefore, mediation is said to establish whenever the predictor variable has influence on the dependent variable through a mediating variable (Baron & Kenney, 1986).

The empirical evidence from the findings of this study shows that there is a significant positive relationship between EES and PDE. The finding also establishes a significant and a positive relationship between PDE and ECO; therefore, as hypothesized the finding shows that PDE mediates the relationship between EES and ECO ($\beta = 0.134$, $t = 4.367$, $p < 0.00$). Thus, based on this empirical result the H_{7b} is thereby supported. This finding is supported by the prior previous studies that reported PDE influences relationship between EES and entrepreneurial career (Block et al., 2011; Botsaris & Vamvaka, 2012; Caliendo & Kritikos 2009; Fitzsimmons & Douglas, 2011; Lee et al., 2005; Li, 2007; Matlay, 2008).

Furthermore, Gabrielsson and Politis (2011) reported that desirability is a predictor of entrepreneurial intent and should be included in the EES model. The study advances that students who view entrepreneurial career as desirable are more likely create their own business and become entrepreneurs. Similarly, Lee et al. (2011) examined the relationship between individuals intend to leave their jobs and entrepreneurial career option in term of starting new business ventures. The study reported that individual's PDE and innovation orientation strengthens the association between job-satisfaction and entrepreneurial career intentions. In addition, Wongnaa and Seyram (2014) conducted a study on factors influence students' entrepreneurial career decision. The study reported that personality traits such as PDE and parental support have significant positive effect on students' entrepreneurial career decision.

In this regards, the finding demonstrates that PDE serves as an intermediate through which the entrepreneurial skills acquired in our universities can be transformed into entrepreneurial career actions by the students after graduation. Consequently, the finding suggests that universities and other stakeholders in the field of entrepreneurial studies should pay more consideration to the concept of PDE been the medium through which EES can transformed into ECO; and ultimately into entrepreneurial career. Equally, the finding shows that individual student's affection toward entrepreneurial career should be stimulated and be encouraged in the teaching process of EES; thereby promotes ECO among the students.

Finally, the finding from present mediation test of PDE on the relationship between EES and ECO has been supported by the underpinning theories of this study. For

instance, according to Human capital theory (HCT) the desire to pursue entrepreneurship as a career option is a function of incentives and motivation which both assimilated through education and training (McMullen & Shepherd, 2006). In this case, EES influences students' desire to pursue entrepreneurship as a career option; and eventually preference for entrepreneurial career as an alternative career option. Equally, SCCT has also proven that concept of outcome expectations and beliefs about the consequences of execution certain behaviours are the major determining factors for career-related behavior. Therefore, EES increases the level at which individual student feels worthwhile for being an entrepreneur as an alternative career option.

5.3.13 The Moderating Effect of Supportive Environment on Relationship between EEK, EES, ESE, PDE and Entrepreneurial Career Option

The eight objective of this study was set to examine the moderating role of supportive environment on positive relationship between EEK, EES, ESE, PDE and ECO among university students in Nigeria. To achieve this objective, four hypotheses were formulated and tested which include H_{8a}, H_{8b}, H_{8c} and H_{8d}. However, all the hypotheses except one in relation to the moderating role of supportive environment on positive relationship between EEK, EES, ESE, PDE and ECO were found to be not significant; hence not supported. The finding may be explained by the fact that majority of the entrepreneurs in Nigeria operate in a non-supportive business environment, with difficulties to obtain loans, low level of infrastructural facilities, inconsistent government policies and general insecurity challenges (SMEDAN, 2012; SMEDAN, 2014).

To expatiate more, the H_{8a} which hypothesized that supportive environment positively moderates the relationship between EEK and ECO. The aim was to assess whether supportive environment can strengthen the relationship between EEK and entrepreneurial career preference among university students in Nigeria. As hypothesized, the empirical result obtained from moderation test shows that supportive environment significantly moderates the relationship between EEK and ECO ($\beta = 0.932$, $t = 1.898$, $p < 0.03$). Therefore, based on this empirical finding the H_{8a} is thereby supported. In addition, the result demonstrates that the relationship is stronger for the students that perceived high level of supportive environment than the students with low level of supportive environment perception. This finding shows further support for the prior previous studies that reported supportive environment moderates relationship between EEK and entrepreneurial career (Edelman & Yli-Renko, 2010; Engle et al., 2011; Giacomini et al., 2011; Jung et al., 2001; McMullen et al., 2008).

In addition, Lim et al. (2010) conducted a study on moderating role of institutional support on the relationship between entrepreneurial cognitions and the entrepreneurial career decision. The finding reported individual's perceived institutional supports moderate the relationship between entrepreneurial cognitions and the entrepreneurial career decision. Similarly, Nandakurmar et al. (2010) empirically examined the moderating effects of supportive environment on the relationship between business-level plan and performance. The findings reported a strong moderating effect of supportive environment on relationship between

business-level plan and competitive performance. Equally, Smith and Beasley (2011) reported that lack of general business knowledge, experience and financial supports were the perceived constrains for graduate entrepreneurs.

In relation to the H_{8b} which hypothesized that supportive environment positively moderates the relationship between EES and ECO. The hypothesis was formulated to assess whether supportive environment can strengthen the relationship between EES and entrepreneurial career preference among university students in Nigeria. Unfortunately, the result shows no significant effect of the EES * SEN interaction term in association between EES and ECO ($\beta = -0.142$, $t = 0.262$, $p < 0.40$). Explicitly, the result demonstrates no support for the hypothesized moderation role of supportive environment on the relationship between EES and ECO; therefore H_{8b} was not supported. Consequently, the finding shows no support for the several prior studies reported a significant and a positive moderating role of supportive environment in relation to entrepreneurial activities (Khaldi & Khatib, 2014; Lucky & Minai, 2012; Mohamad et al., 2011; Serrano et al., 2009; Smith & Beasley, 2011; Tsuja & Marlfiio, 2013; Zamora, Benito & Gellogo, 2013).

However, this result is not entirely unanticipated given the fact that the direct relationship between EES and ECO was not significant in the first place. Equally, the direct relationship between SEN and ECO was also reported not significant. In addition, this finding may be as the result recent economic crisis of the nation (Nigeria) which was declared been on recession (Daily trust, 2016). This situation has made universities and other entrepreneurship supportive agencies such as

SMEDAN to cut down their budgets and consequently affects the amount of support given to potential entrepreneurs. Similarly, the Nigerian security challenges in terms of 'Boko haram' terrorism and Niger-Delta militants' activities have posed a serious challenge for the external supportive environment in the country. These security challenges have recently made Nigerian business environment unfriendly and more challenging for the potential entrepreneurs. Therefore, it is obvious that the recent economic crisis and the security challenges in Nigeria have made supportive environment to shows little or no contribution towards development of potential entrepreneurs in the nation.

With regard to the H_{8c} which proposed that supportive environment positively moderates the relationship between ESE and ECO. The hypothesis was formulated to examine whether supportive environment can strengthen the relationship between ESE and entrepreneurial career partiality among university students in Nigeria. However, the result obtained from moderation test demonstrates no significant moderating effect of supportive environment on the relationship between ESE and ECO ($\beta = 0.078$, $t = 0.124$, $p < 0.45$). Therefore, based on this empirical finding the H_{8c} is not supported. In addition, the finding shows no support for the previous studies reported a significant and a positive moderating role of supportive environment in relationship between ESE and entrepreneurial career preference (Kristiansen & Indarti, 2014; Okhomina, 2010; Oyewobi et al., 2013; Sequeira et al., 2007; Shehu & Mahmood, 2014).

In contrary, the finding coincide with other studies reported no significant moderating role of supportive environment in their findings. For instance, Mohamad, et al. (2011) studied the moderating role of business environment the association between corporate entrepreneurship and firm Performance. The reported that supportive environment in terms of government policies and economy do moderate the association between corporate entrepreneurship and firm performance. Similarly, Nimalathan and Achchuthan (2012) studied the moderating role supportive environment in relationship between entrepreneurial motivations and entrepreneurial career intention. The study reported perceived government and non-governmental support did not show significant effect in relationship between entrepreneurial motivations and entrepreneurial career intention. Equally, Aziz and Yasin (2010) reported that external supportive environment has no significant moderating effect on the relationship between business model and entrepreneurial career preference.

Lastly, the H_{8d} hypothesized that supportive environment positively moderates the relationship between PDE and ECO. The aim of this hypothesis was to assess whether supportive environment can reinforce the relationship between PDE and entrepreneurial career inclination among university students in Nigeria. In contrary, the empirical result obtained from moderation test shows that supportive environment did not have a significant moderating effect on the relationship between PDE and ECO ($\beta = 0.226$, $t = 0.465$, $p < 0.32$), hence H_{8d} was not supported. Although, the finding demonstrates no significant moderating role of supportive environment, it is in consistent with the finding of other studies such as Singh (2013) reported external supportive environment was not to competitive strategy, market

orientation and entrepreneurial performance. Similarly, Hartano (2013) established supportive environment provided no significant contribution to the relationship between market orientation and business performance. In addition, the result also confirms the controversy set by SMEDAN (2012) that Nigerian business environment is not supportive to potential entrepreneurs and sustainable entrepreneurial growth of the nation.

5.4 Implications of the Study

Academics, practitioners, policymakers, educational institutions and other stakeholders in the area of entrepreneurship education and entrepreneurial career have recently given much attention on the antecedents of entrepreneurial career and other factors that influence students' preference for entrepreneurial career as an alternative career option. To this end, based on the findings of this research work, the study has a number of implications for various stakeholders in relation to entrepreneurship education and entrepreneurial career in the Nigerian context in particular and the world at large. These implications were discussed in the following sub-headings.

5.4.1 Theoretical Implications

The primary objective of this study was to empirically investigate the mediating role of ESE and PDE on the relationship between EEK, EES and ECO, and the moderating role of SEN between EEK, EES, ESE, PDE and ECO. Therefore, the study developed a theoretical model that linked EEK and EES, amongst other variables, to the formation of ECO. The study provided empirical evidence for the

theoretical relationships hypothesized in the research framework. Specifically, the study highlighted the mediating role of ESE and PDE, and moderating role of SEN on the relationship between EEK, EES, ESE, PDE and ECO among university students in Nigeria.

In this regard, the combination of EEK, EES, ESE and PDE in a single model as relevant variables influencing ECO has received little or no attention by researchers. Based on these arguments, the structural association between EEK, EES, ESE and PDE and important antecedents of ECO was examined in a single model. The results show that EEK, ESE and PDE have a positive influence on ECO. However, surprisingly the results indicate EES has no significant impact on ECO. Therefore, the study adds further knowledge on the importance of EEK, ESE and PDE as antecedents for ECO. In addition, the results provide empirical evidence that supported the framework of this study and thereby supporting SCCT as one of the underpinning theories. SCCT proven that the outcome expectations, the consequences of carrying out certain behaviors, together with self-efficacy beliefs, are major determining factors for a particular behavior or career choice.

A number studies suggested that entrepreneurship education taught in our institutions of learning can only has effects on entrepreneurial career if it changes the fundamental attitudes and perceptions in relation to entrepreneurial career such as ESE and PDE (Krueger, Reilly & Carsrud, 2000; Linan, 2010; Karimi et al., 2010). In this angle, the study also contributes by examined the relationship between EEK, EES and ESE, and also the relationship between EEK, EES and PDE. The results

demonstrate that EEK and EES positively influence ESE; in addition, the relationship between EEK, EES and PDE was reported to be positively significant. Hence, the findings of the study show support for existing theories related to antecedent of entrepreneurial behaviour such as Linan's entrepreneurial intention model (Linan, 2004), entrepreneurial event theory (Shapero & Sokol, 1982) and also adds to the existing literature on antecedents of entrepreneurial behavior.

Similarly, earlier studies suggested ESE and PDE are both suitable for investigation into general perceptions of self-employment and more precisely entrepreneurial career (Abdullahi, 2015; Drnovsek et al., 2010; Fitzsimmons & Douglas, 2011; Jiang & Park, 2012; Linan, 2004; Linan, 2010; McMullen & Shepherd, 2006; Olakitan, 2014). Other studies have established the relationship between ESE and entrepreneurial career (Ahmad et al., 2014; Izquierdo & Buelens, 2011; Jose Lius, 2011; Naktiyok et al., 2010). Equally, the link between PDE and entrepreneurial career was also investigated (Fitzsimmons & Douglas, 2011; Jiang & Park, 2012; Kim-Soon et al., 2013; Krueger, 1993; Krueger et al., 2000; Kumara, 2012; Linan & Chen, 2009; Wang, Lu & Millington 2011). However, little or no attention has been given to the mediation role of ESE and PDE in explaining the relationship between EEK, EES and ECO. In view of this, previous studies suggest the mediating role of ESE (Abdullahi, 2015; Engle et al., 2013; Chun-Mei et al., 2011) and PDE (Hattab, 2014; Ummah, 2009) on the relationship between entrepreneurship education and ECO.

In this direction, the study contributes by empirically examined the mediation role of ESE and PDE on the relationship between EEK, EES and ECO. The results demonstrate that ESE mediates the relationship between EEK, EES and ECO. This means that the students' entrepreneurial career preference can be enhances by improving their ESE by the means of proper training in terms of EEK and EES. In other words, ESE is the medium through which EEK and EES enhances the students' entrepreneurial career preference. In addition, the results also show that PDE mediates the relationship between EEK, EES and ECO. The finding indicates that EEK and EES enhance the students' entrepreneurial career preference by improving the students' PDE. Hence, the findings make significant contribution to the SCCT, entrepreneurial event theory and entrepreneurship education literature by explaining the role ESE and PDE play in relationship between EEK, EES and ECO.

In addition, in view of the suggestions made by prior studies for the enclosure of SEN as a moderating variable in the studies of relationship between entrepreneurship education and entrepreneurial career (Abdullahi, 2015; Nasiru et al., 2015). This study also contributes by empirically investigated the moderation role of SEN on the relationship between EEK, EES, ESE, PDE and ECO. Accordingly, the results of the moderation test demonstrate that SEN has significant moderation role the relationship between EEK and ECO. However, the results show that SEN has no significant moderation role on the relationship between EES, ESE, PDE and ECO. Obviously, this adds to the knowledge of the entrepreneurial event theory, literature and opens new gap in research for the antecedents of entrepreneurial career preference.

Lastly, the past literature reviewed on the antecedents of entrepreneurial career suggested that most of the studies in the field were conducted in USA (e.g. Austin & Nauta, 2015; Block et al., 2011; Damaraju et al., 2010; Decker et al., 2012), Europe (e.g. Beynon et al., 2014; Fenton & Barry, 2014; Jones et al., 2011; Marina et al., 2013; Rae et al., 2013), Latin America (e.g. Jose Luis, 2011; St-Jean & Mathieu, 2015) and Asia (e.g. Sharma & Madan, 2014; Mohda et al., 2014; Nordin et al., 2015). However, no much of such studies are conducted in African continent where the majority of the nations are poor and less developed. Therefore, by conducting such a study in Nigeria will certainly improve the understanding of the antecedents of entrepreneurial career preference in Africa and other developing nations as a whole.

5.4.2 Practical Implications

In the recent years, attention has been focused world over on entrepreneurial career as prominent economic factor for creating job opportunities, economic growth, wealth creation, poverty reduction, and positive social development. In this regard, the development of entrepreneurial consciousness and encouraging positive attitudes towards entrepreneurial career are among the major policy agenda of several countries worldwide (OECD, 2010). In addition, the importance of entrepreneurship education in the promotion of entrepreneurial career has been widely recognized (Ethugala, 2011; Kelley et al., 2012; Orford et al., 2009). Therefore, based on the literature reviewed the study has identified lack of entrepreneurial self-efficacy, low desirability for entrepreneurial career and absence of supportive environment as the

major challenges confronting graduates of Nigerian universities in relation to entrepreneurial career preference.

The main purpose of this study was to comprehend more about the antecedents of individual's entrepreneurial career preference, thereby developed a model that associated entrepreneurship education, amongst other factors, to the formation of such entrepreneurial behaviour. In particular, the model has the potential to explain future entrepreneurial career preference through career cognitive process (Lent et al., 1994; Linan, 2004), understanding the influence of entrepreneurship education on entrepreneurial career through changes in students' attitudes towards entrepreneurial career and entrepreneurial self-efficacy is of great importance to entrepreneurship educators, curriculum developers, university authorities, policymakers and other stakeholders. For instance in Nigeria, entrepreneurship education being a newly implemented program in its educational system, understanding the impact of the program on individuals provides opportunities for educators, curriculum developers, university authorities and policymakers to assess the effectiveness of the program. Hence, helps to implement changes where necessary enhance the program to suit the specific needs of the nation.

Specifically, the study provided empirical evidence that entrepreneurial knowledge is positive significantly related to entrepreneurial career option. This implies that the entrepreneurial knowledge taught in the Nigerian universities positively enhances the students' attitude toward entrepreneurial career preference; thereby increases the level of potential entrepreneurs in the country. Consequently, this also implies that

educators are encouraged to identify and implement this aspect of entrepreneurship education modules since it produces the desired results. In contrast, the relationship between entrepreneurial skills and entrepreneurial career option was found to be not significant. This implies that the entrepreneurial skills modules taught in the Nigerian universities do not encourage students toward entrepreneurial career preference. Therefore, educators and curriculum developers need to reassess this aspect of entrepreneurship education modules with the aim of identifying the problem (s) since the modules could not produce the desired results. In addition, there is the need for hands on practical approach in the teaching of entrepreneurial skills in the educational system.

In addition, the study also provided empirical evidence that entrepreneurial self-efficacy was found to have a significant positive relationship with entrepreneurial career option. The implication of this finding is that the higher the students' entrepreneurial self-efficacy then the higher level of students' entrepreneurial career preference. In other words, increases in the students' entrepreneurial self-efficacy increases the potentiality of students' entrepreneurial career preference and vice-versa. Equally, the results of the study revealed entrepreneurial self-efficacy mediates the association between entrepreneurial knowledge, entrepreneurial skills and entrepreneurial career option. This means that entrepreneurial self-efficacy serves as a medium through which entrepreneurial knowledge and entrepreneurial skills can be transformed into entrepreneurial career preference. This implies that educators and curriculum developers should identify and develop modules that enhance students' entrepreneurial self-efficacy which in turn enhances the students' entrepreneurial

career preference. Therefore, the study provides additional insight into benefits of entrepreneurship education in both increased in students' entrepreneurial self-efficacy and entrepreneurial career preference.

Furthermore, the current study provided empirical support for the relationship between perceived desirability and entrepreneurial career option. This means increases in the students' perceived desirability increases the potentiality of students' entrepreneurial career preference and vice-versa. In addition, the finding further suggests that perceived desirability mediates the relationships among entrepreneurial knowledge, entrepreneurial skills and entrepreneurial career option. This implies that perceived desirability serves as an intermediate through which entrepreneurial knowledge and entrepreneurial skills can be transmuted into entrepreneurial career option. Therefore, educators and curriculum developers should identify and develop modules that increase students' perceived desirability which in turn improves the students' entrepreneurial career preference. Hence, the study provides the various stakeholders with an insight of the influence of the entrepreneurship education on students' perceived desirability which in turn improves the students' entrepreneurial career preference.

Finally, the study revealed empirical evidence of moderating role of supportive environment in relationship between entrepreneurial knowledge and entrepreneurial career option. The implication of this finding is that the association between entrepreneurial knowledge taught in universities and students' entrepreneurial career preference can be influenced by supportive environment. Hence, the policymakers and

other stakeholders should intensify the level of supportive environment that influences students' entrepreneurial career preference. In contrary, the study revealed no significant moderating role of supportive environment amongst the relationships between entrepreneurial skills, entrepreneurial self-efficacy perceived desirability and entrepreneurial career option. This implies that the current supportive environment in Nigeria does not positively control the association amongst entrepreneurial skills, entrepreneurial self-efficacy perceived desirability and students' entrepreneurial career preference. Therefore, the government/policymakers should create enabling supportive environment that encourages the students' entrepreneurial career preference as an alternative career option.

In summary, the findings imply that both entrepreneurial knowledge and entrepreneurial skills taught in the Nigerian universities can have a positive impact on individual students' attitude toward entrepreneurial career preference as an alternative career option. In the study model, the formations of entrepreneurial career option is positively associated with both the entrepreneurial self-efficacy and perceived desirability measures. The entrepreneurial self-efficacy and perceived desirability measures were shown to be affected by both entrepreneurial knowledge and entrepreneurial skills taught in the Nigerian universities. However, supportive environment in Nigeria shown a little control amongst the factors related to the formation of entrepreneurial career option.

5.5 Limitations and Future Research Directions

A number of contributions have been highlighted in the previous section of this study regarding the impacts of entrepreneurship education amongst other factors in relationship with students' entrepreneurial career option. Notwithstanding, a study of this nature like any other behavioral research might have encounter a number of limitations which need to be highlighted and made necessary recommendations for future research. To this end, this study has identified the following limitations.

Firstly, the study was limited on cross sectional data to investigate the impact of entrepreneurship education amongst entrepreneurial self-efficacy, perceived desirability and the students' entrepreneurial career preference, but not on the actual entrepreneurial career behavior. Although, the association between behavioral intention and successive behavioral action has been theoretically established (Ajzen, 1991) and empirically supported (Bird, 1988; Kim and Hunter, 1993; Kolvereid, 2006; Shook et al., 2003). But notwithstanding, the future research should consider longitudinal study to collect data over a period of time after the students' graduation so that the course impact on actual entrepreneurial behavior can be effectively evaluated.

Secondly, the study employed the use of self-reporting method to collect the survey data from the respondents. More precisely, structured questionnaires on self-reporting were used collect the respondents' opinions on the relationship between entrepreneurial knowledge, entrepreneurial skills, entrepreneurial self-efficacy, perceived desirability and entrepreneurial career option. Although these opinions

may be considered as perceptions in relation to the variables under this study, but it is consistent with previous studies (e.g. Bernhofer & Li, 2014; Giacomini et al., 2011; Jones et al., 2008; Molaei et al., 2014; Setiawan, 2014). The future research should include other methods of data collection that reflect actual learning outcomes such as students' performance test, written test, interview, and other relevant learning assessment methods to reassess the relationships.

Thirdly, the study limited its scope on universities operating in northern Nigeria, and it does not encompass universities operating in other parts of the country. Although, universities operating in Nigeria share similar characteristics in terms of curriculum contents, students' admission and graduation requirements, supervisory body, etc. However, the results obtained may be slightly different if other parts of the country had been included in the study. Therefore, future researches should consider investigating students from universities in other parts of the country.

Finally, the study employed quantitative research design which is a non-experimental research design; hence the respondents' positions before treatment were not determined. Therefore, the future research may employ a quasi-experiment research design whereby the respondents' positions before and after treatment could be assessed. The study also suggests a comparative study between and other developing countries that introduced entrepreneurship education in their educational system. The comparative study may allow the two or more countries to have more insight on the stage of entrepreneurship education in their individual countries and to assess their areas of strength and weakness.

5.6 Conclusions

In conclusion, this research work addresses a gap in the literature by providing empirical evidence on the association between EE, ESE, PDE, SEN and ECO among the university students in Nigeria. The main purpose of this study was to examine the mediating role of ESE and PDE and moderating role of SEN on the relationship between EEK, EES and ECO. The study highlighted eight objectives, which were empirically tested discussed in chapter four and five of this study. Absolutely, the study has achieved all the eight objectives as discussed and concluded as follows:

The first objective was set to examine the relationship between EEK, EES and students' entrepreneurial career option. The stated objective was achieved by statistically testing two direct relationship hypotheses. The result provides empirical evidence of a positively significant relationship between EEK and ECO. However, the finding shows no evidence of significant relationship exist between EES and ECO. The second objective of this study was set to examine the relationship between entrepreneurship education and entrepreneurial self-efficacy. In this regard also, two hypotheses were statistically tested to accomplish this objective of the study. Empirical evidence from the finding of this study shows that both EEK and EES have positive and significant influence on the students' ESE.

In regard to the third objective of the study which was set to examine the relationship between ESE and ECO. A hypothesis was formulated asserting that a significant relationship exist between ESE and ECO. The hypothesis was statistically tested and the result provides empirical evidence of significant positive influence of ESE on

students' ECO. Hence, the finding indicates that ESE plays an important role in the formation of students' ECO. The fourth objective of this study was set to examine the mediating role of ESE on the relationship between EEK, EES and ECO. To achieve this objective, two indirect hypotheses were formulated and statistically tested. The findings revealed that ESE plays important mediating role in association between EEK, EES and students' ECO. In other words, ESE serves as an intermediary through which both EEK and EES can influence students' ECO better.

In addition, the study has also contributed to the literature by providing empirical evidence on the relationship between EEK, EES and PDE as stated in the fifth objective of this study. To achieve the fifth objective of this study two hypotheses were formulated stating that a significant relationship occur among EEK, EES and PDE. The two hypotheses were statistically tested and the findings demonstrate empirical evidence of significant positive influence of both EEK and EES on students' PDE. Conclusively, both EEK and EES play significant role in the formation and improvement of the students' PDE. The sixth objective of this study was set to examine the relationship between PDE and ECO. A hypothesis was formulated proclaiming that there is a significant relationship between PDE and ECO. The stated hypothesis was statistically tested and the finding shows empirical evidence of significant positive influence of PDE on students' ECO. Therefore, the finding indicates that PDE plays a vital role in the realization of students' ECO.

The seventh objective of this study was set to examine mediating role of PDE on the relationship between EEK, EES and ECO. To accomplish this objective, two indirect

hypotheses were formulated and tested. The findings show that PDE plays a mediational role between EEK, EES and ECO. This signifies that PDE influences relationships among EEK, EES and students' ECO. With regards to the issue of whether supportive environment has significant positive moderating effects on the relationship between EEK, EES, ESE, PDE and ECO as stated in the eighth objective of this study. In this issue, four moderating hypotheses were formulated and tested to accomplish the objective. The result indicates SEN plays a moderating role in the relationship between EEK and ECO. However, in contrary the findings demonstrate no moderating role played by SEN in the between EES, ESE, PDE and ECO.

In summary, the study has empirically tested the relationship among EEK, EES, ESE, PDE and ECO. Accordingly, 17 hypotheses were tested and out of which 12 hypotheses were found significantly supported by the results of the study. Meanwhile, 4 hypotheses were not supported in the study. The study made some important theoretical and practical contributions based on the findings of the study. Hence, the study has added valuable implications in the field of entrepreneurship, entrepreneurship education and entrepreneurial career literatures. Based on the limitations highlighted in this study, several directions for future studies were recommended.

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Appendix A:
Research Questionnaire



Dear respondent,

Academic Research Questionnaire

I am a PhD candidate undergoing full time study at Universiti Utara Malaysia. As part of the requirements of the program, I am currently undertaking a survey research title: **Entrepreneurship Education and Entrepreneurial Career Option: The role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment.** In this regard you have been duly selected as a member of the sample for the study.

You are kindly requested to spare your time and complete this questionnaire form. All the responses will be treated confidential and use for academic purpose only.

Thank you for your time and cooperation.

Yours sincerely,

Yakubu Abdullahi Yarima
PhD (Entrepreneurship) Candidate
School of Business Management
Universiti Utara Malaysia
06010 Sintok, Kedah Malaysia
Tel. +601126793364, +2348066948454
E-mail: yakubuyerima318@yahoo.com

SECTION A: Entrepreneurial career option (ECO)

In this section, the researcher is interested for your personal opinion for preference of entrepreneurial career or otherwise. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed			
1.	I prefer entrepreneurial career to increase my personal income.			1	2	3	4	5
2.	I prefer entrepreneurial career to increase my opportunity.			1	2	3	4	5
3.	I prefer entrepreneurial career to acquire personal wealth.			1	2	3	4	5
4.	I prefer entrepreneurial career to be my own boss.			1	2	3	4	5
5.	I prefer entrepreneurial career to become self-employed.			1	2	3	4	5
6.	I prefer entrepreneurial career to control my own destiny.			1	2	3	4	5
7.	I prefer entrepreneurial career to acquire personal security.			1	2	3	4	5
8.	I prefer entrepreneurial career to enjoy my personal excitement.			1	2	3	4	5
9.	I prefer entrepreneurial career to meet business challenges.			1	2	3	4	5
10.	I prefer entrepreneurial career to prove I can do it.			1	2	3	4	5
11.	I prefer entrepreneurial career to recognize business opportunities.			1	2	3	4	5
12.	I prefer entrepreneurial career to exploit business opportunities.			1	2	3	4	5
13.	I prefer entrepreneurial career to develop new ideas.			1	2	3	4	5
14.	I prefer entrepreneurial career to develop new innovations and initiatives.			1	2	3	4	5

SECTION B1: Entrepreneurial knowledge

In this section, the researcher is interested for your personal opinion on the acquired entrepreneurial knowledge in the course of your study. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed
1. I understand better the attitudes of entrepreneurs.				1	2 3 4 5
2. I understand better the entrepreneurial values.				1	2 3 4 5
3. I understand better the motivation of entrepreneurs.				1	2 3 4 5
4. I understand better the steps that one has to take to establishing a new business.				1	2 3 4 5
5. I know everything that is needed to start a new business.				1	2 3 4 5
6. I learn the practical managerial skills for establishing a new business.				1	2 3 4 5
7. I understand better the networking skills for establishing a new business.				1	2 3 4 5
8. I learn the skills to recognize new business ideas.				1	2 3 4 5

SECTION B2: Entrepreneurial Skills

In this section, the researcher is interested for your personal opinion on the acquired entrepreneurial skills in the course of your study. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed
1. I can easily recognize business opportunities around.				1	2 3 4 5
2. I have the creativity to establish my own business.				1	2 3 4 5
3. I have the problem solving skills to manage my own business.				1	2 3 4 5
4. I have the leadership skills to manage my own business.				1	2 3 4 5
5. I have the communication skills to manage my own business.				1	2 3 4 5
6. I can easily develop new products and services.				1	2 3 4 5
7. I have the networking skills to establish my business.				1	2 3 4 5
8. I have the professional contacts to establish my business.				1	2 3 4 5

SECTION C: Entrepreneurial Self-efficacy (ESE)

In this section, the researcher is interested for your personal judgement on your ability to undertake entrepreneurship as a career option. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed
1. I believe I could successfully start my own business.				1	2 3 4 5
2. I believe I can create products or services that fulfil customers' unmet needs.				1	2 3 4 5
3. I believe I can think creatively in business.				1	2 3 4 5
4. I believe I can achieve goals and objectives related to a new business venture.				1	2 3 4 5
5. I believe I can build a management team to develop a business.				1	2 3 4 5
6. I believe I can work productively under continuous stress and pressure from work.				1	2 3 4 5
7. I believe I can tolerate unexpected changes in business conditions.				1	2 3 4 5
8. I can discover new ways to improve existing products.				1	2 3 4 5
9. I can develop a working environment that encourages people to try out something new.				1	2 3 4 5

SECTION D: Perceived Desirability (PDE)

In this section, the researcher is interested for your personal opinion on attractiveness for entrepreneurship as a career option. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed
1. A career as an entrepreneur is absolutely attractive to me.	1	2	3	4	5
2. I have no any doubts about ever starting my own business.				1	2 3 4 5
3. I have very high feelings of ever starting a business.				1	2 3 4 5
4. I am ready to do anything to be an entrepreneur.				1	2 3 4 5
5. I will make every effort to start and run my own business.				1	2 3 4 5
6. Being an entrepreneur would give me great satisfaction.				1	2 3 4 5
7. My professional goal is to be an entrepreneur.				1	2 3 4 5

SECTION E: Supportive Environment (SEN)

In this section, the researcher is interested for your personal opinion on the perceived supportive environment for entrepreneurial career. Please read the following statements and circle the most accurate option that reflects your personal opinion.

	1 Strongly Disagreed	2 Disagreed	3 Undecided	4 Agreed	5 Strongly agreed			
1.	Entrepreneurship education in university encourages me to develop creative ideas for being an entrepreneur.			1	2	3	4	5
2.	My university provides the necessary knowledge about entrepreneurial career option.			1	2	3	4	5
3.	My university provides the necessary support on entrepreneurial career option.			1	2	3	4	5
4.	My university develops my entrepreneurial skills and abilities.			1	2	3	4	5
5.	In Nigeria, entrepreneurs are encouraged by private organizations.			1	2	3	4	5
6.	In Nigeria, entrepreneurs are encouraged by public organizations.			1	2	3	4	5
7.	In Nigeria, entrepreneurs are encouraged by non-governmental organizations.			1	2	3	4	5
8.	Nigerian economy provides many opportunities for entrepreneurs.			1	2	3	4	5
9.	Taking loans from banks is quite easier for graduate entrepreneurs in Nigeria.			1	2	3	4	5
10.	State laws (rules and regulations) are favorable for running a business in Nigeria.			1	2	3	4	5

SECTION F: Demographic Characteristics

Using the following statements select the most appropriate option that specifies your demographic information.

1. Age

- i) 18 - 29 []
- ii) 30 – 39 []
- iii) 40 – 49 []
- iv) 50 – 59 []
- v) 60 and above []

2. Gender

- i) Male []
- ii) Female []

3. Area of study

- i) Business []
- ii) Agriculture []
- iii) Engineering []
- iv) Technology []

4. Parent's self-employed

- i) Yes []
- ii) No []



5. Closed relative self-employed

i) Yes []

ii) No []

6. Occupational experience

i) Self-employed []

ii) Civil servant []

iii) Working for others []

iv) Apprenticeship []

v) Unemployed []



UUM
Universiti Utara Malaysia

Appendix B: Letter of Recommendation for Data Collection



OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA



Tel : 604-928 7101/7113/7130
Faks (Fax): 604-928 7160
Laman Web (Web): www.oyagab.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/R-4/4/1
06 April 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Yakubu Abdullahi Yarima (Matric No: 95845)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing his Doctor of Philosophy (PhD). He is conducting a research entitled **"Entrepreneurship Education and Entrepreneurial Career Option : The Role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment"** under the supervision of Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"KNOWLEDGE, VIRTUE, SERVICE"

Yours faithfully


ROZITA BINTI RAMLI
Assistant Registrar
for Dean

Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (95845)

Universiti Pengurusan Terkemuka
The Eminent Management University



**Appendix C:
Acknowledgement Letter for Data Collection (i)**



AHMADU BELLO UNIVERSITY, ZARIA

Department of Business Administration

VICE-CHANCELLOR:

Professor Ibrahim Garba
B.Sc (Hons) Geology, M.Sc (Mineral Exploration)
A.B.U, Ph.D Geology (London) D.I.C, FNMG5

ADDRESS:

P.M.B. 1013, Zaria, Nigeria
e-mail: bizadmin@abu.edu.ng
Tel: 07064271216, 08098080584

HEAD OF DEPARTMENT:

Professor Bello Sabo
B.Sc. Hons. (ABU), MBA (UDU),
Ph.D (ABU), FCAI, CMA, MNIM, mnipm,
E-mail: sabobello@abu.edu.ng

DBA/ORG/13

5th May, 2016.

The Assistant Registrar,
Othman Yeop Abdullah,
Graduate School of Business,
Universiti Utara Malaysia

Dear Sir,

**RE: LETTER OF RECOMMENDATION FOR DATA COLLECTION
AND RESEARCH WORK**

This is to certify that Yakubu Abdullahi Yarima with (Matric No: 95845) who is conducting his Ph.D research on "*Entrepreneurship Education and Entrepreneurial Career Option: The Role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment*" visited this Department on 6th April, 2016.

The Department is willing to give the necessary assistance and cooperation.

Thank you.

Yours faithfully,

Dr. Bello Sabo
Head, Department of
Business Administration.

**Appendix D:
Acknowledgement Letter for Data Collection (ii)**



**DEPARTMENT OF CROP PROTECTION
FACULTY OF AGRICULTURE**

BAYERO UNIVERSITY, KANO.

P.M.B. 3011, Kano
Tel: +234 81 3920 00 99
e-mail: vc@buk.edu.ng
website: www.buk.edu.ng

Vice Chancellor: Prof. Muhammad Yahuza Bello, B.Sc. M.Sc. (Buk); Ph.D. (Arkansas)
Head of Department: Hassan Sule, B.Sc. (Unimaid); M.Sc. (ATBU) Ph.D. (UPM)

E-mail: hod.cpp@buk.edu.ng

05/05/2016

Dean,
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
06010 U U M Sintok,
Kedah Darul Aman
Malaysia,

**RE- LETTER OF RECOMMENDATION FOR DATA COLLECTION AND
RESEARCH WORK**

With reference to your letter dated 06 April 2016, I write to certify that **Yakubu Abdullahi Yarima (Matric No: 95845)** has administered thirty (30) academic research questionnaires with title: **Entrepreneurship Education and Entrepreneurial Career Option: The role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment**, to our final year students (Faculty of Agriculture, Bayero University Kano, Nigeria).

In this regard, we hope the opinion of the students will help greatly in achieving the desire goal of this research work.

Thank You.

Yours Faithfully,

Dr. Hassan Sule

**HEAD
DEPT. OF CROP PROTECTION
BAYERO UNIVERSITY, KANO**

**Appendix E:
Acknowledgement Letter for Data Collection (iii)**

	DEPARTMENT OF SCIENCE AND TECHNOLOGY EDUCATION Faculty of Education, BAYERO UNIVERSITY, KANO	
	VICE-CHANCELLOR: <i>Professor Muhammad, Yahya Bello, Ph.D. (Arkansas), M.Sc, B.Sc. (BUK)</i>	PMB 3011, Kano, NIGERIA Secretary: ☎+234(080)
Head: <i>Dr. Garba Shu'aibu, NCE, B.Sc. Ed. (Math, BUK), Med (BUK) Ph.D. (BUK)</i>		

May 12th, 2016.

The Dean,
Othman Yeop Abdullah,
Graduate School of Business,
Universiti Utara Malaysia,
06010 UUM Sintok,
Kedah Darulaman,
Malaysia.

Dear Sir,

Re: Letter of Recommendation for Data Collection and Research Work

Reference to your letter UUM/OYAGSB/R-4/4/1 dated 06/04/2016. I wish to write and notify you that the bearer **Yakubu Abdullahi Yarima (Matric No. 95845)** has been allowed to administered his research work questionnaire titled: **Entrepreneurship Education and Entrepreneurial career Option: The Role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment"** containing 62 items to our level 400 final year students as requested.

Thank for your usual consideration and cooperation.

Your best regards


Abdullahi Abulkarim
Department Secretary
For: Head of Department



**Appendix F:
Acknowledgement Letter for Data Collection (iv)**



BAYERO UNIVERSITY, KANO, NIGERIA
DEPARTMENT OF BUSINESS ADMINISTRATION AND
ENTREPRENEURSHIP
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
P.M.B. 3011 KANO, NIGERIA

VICE-CHANCELLOR:

Prof. Yabusa Muhammad Ballo B.Sc., M.Sc.(B.U.K) Ph. D (Arkansas)

REGISTRAR:

Hajiya Fatima Binta Mohammed B.A (E.D), MPPA (BUK) MNF

HEAD OF DEPARTMENT:

Dr. Isah Mudi Malumfashi B.SC.(BUK) MBA, M.SC. (ABU) M.SC, Ph. D (BUK)

31st May, 2016.

OthmanYeop Abdullahi
Graduate School of Business
Universiti Utara Malaysia
0610 UUM Sintok
Kedah Darul Aman
Malaysia

Dear Sir,

ATTESTION LETTER FOR DATA COLLECTION AND RESEARCH WORK

I, Dr. Isah Mudi M/Fashi, HOD Business Admin & Entrepreneurship Bayero University Kano, Nigeria write to attest that Yakubu Abdullahi Yarima with matric No. 95845 was in this Department for Data Collection for five weeks (25th April- 18th May, 2016).

Thanking you.

Yours faithfully,


DEPARTMENT OF BUSINESS ADMINISTRATION AND ENTREPRENEURSHIP
Bayero University, Kano
Dr. Isah Mudi Malumfashi

**Appendix G:
Acknowledgement Letter for Data Collection (v)**

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA.

SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
Department of Industrial and Technology Education

Vice Chancellor:
PROF. MUSBAU A. AKANJI, B.Sc., M.Sc., Ph.D, FNSBMB
Head of Department:
DR. R. O. OKWORI, FRHD, MNATT, MTRCN B. Ed (Tech), M.Sc (ABU),
M.Ed (ITE) UNN, Ph.D (ATSU)
E-mail: robertokwori@futminna.edu.ng or okworibert@yahoo.com



Telephone: 066-222304, 222397128
Telegram: FUTECH Minna
E-mail: Info@futminna.net

P.M.B. 65, Minna

13th June, 2016

Your Ref. _____

Our Ref. _____

Date _____

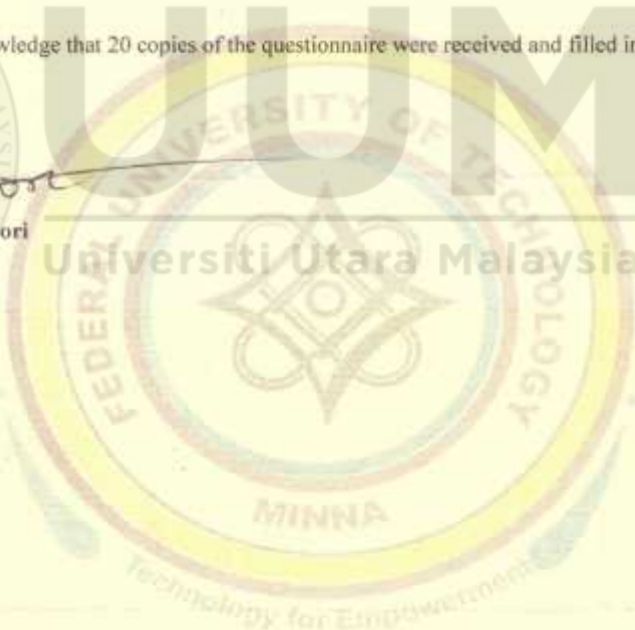
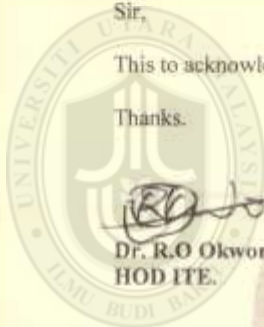
The Assistant Registrar,
Graduate School of Business,
Universiti Utara Malaysia,
06010 UUM SINTOK
KEDAH DARUL AMANA.

Sir,

This to acknowledge that 20 copies of the questionnaire were received and filed in the department.

Thanks.

Dr. R.O Okwori
HOD ITE.



**Appendix H:
Acknowledgement Letter for Data Collection (vi)**



**OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS**
Universiti Utara Malaysia
06010 UUM SINTOK
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KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/R-4/4/1
06 April 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Yakubu Abdullahl Yarima (Matric No: 95845)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing his Doctor of Philosophy (PhD). He is conducting a research entitled **"Entrepreneurship Education and Entrepreneurial Career Option : The Role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment"** under the supervision of Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"KNOWLEDGE, VIRTUE, SERVICE"

Yours faithfully,


ROZITA BINTI RAMLI
Assistant Registrar
for Dean

Othman Yeop Abdullah Graduate School of Business



c.c - Supervisor
Student's File (95845)

Universiti Pengurusan Terkemuka
The Eminent Management University



**Appendix I:
Acknowledgement Letter for Data Collection (vii)**



**OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS**
Universiti Utara Malaysia
06010 UUM SINTOK
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KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/R-4/4/1
06 April 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Yakubu Abdullah Yarima (Matric No: 95845)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing his Doctor of Philosophy (PhD). He is conducting a research entitled **"Entrepreneurship Education and Entrepreneurial Career Option : The Role of Entrepreneurial Self-efficacy, Perceived Desirability and Supportive Environment"** under the supervision of Dr. Norashidah Binti Hashim.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you,

"KNOWLEDGE, VIRTUE, SERVICE"

Yours faithfully,


ROZITA BINI RAMLI
Assistant Registrar
for Dean

Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (95845)



Received by policy for Dean

Universiti Pengurusan Terkemuka
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Appendix J:
Missing Values

Missing Values

	N	
	Valid	Missing
ECO 01	357	2
ECO 02	359	0
ECO 03	359	0
ECO 04	359	0
ECO 05	358	1
ECO 06	358	1
ECO 07	359	0
ECO 08	357	2
ECO 09	359	0
ECO 10	359	0
ECO 11	359	0
ECO 12	357	2
ECO 13	358	1
ECO 14	359	0
EEK 01	358	1
EEK 02	359	0
EEK 03	358	2
EEK 04	359	0
EEK 05	359	0
EEK 06	359	0
EEK 07	359	0
EEK 08	359	0
EES 01	356	3
EES 02	359	0
EES 03	357	2
EES 04	359	0
EES 05	358	1
EES 06	358	1

EES 07	359	0
EES 08	359	0
ESE 01	359	0
ESE 02	359	0
ESE 03	358	1
ESE 04	358	1
ESE 05	359	0
ESE 06	359	0
ESE 07	359	1
ESE 08	359	0
ESE 09	359	0
PDE 01	358	1
PDE 02	359	0
PDE 03	357	2
PDE 04	358	1
PDE 05	359	0
PDE 06	359	0
PDE 07	358	1
SEN 01	359	0
SEN 02	359	0
SEN 03	358	1
SEN 04	359	0
SEN 05	359	0
SEN 06	358	1
SEN 07	359	0
SEN 08	359	0
SEN 09	359	0
SEN 10	357	2
AGE	359	0
GENDER	359	0
SUBJECT	359	0
PSE	359	0
RSE	359	0
OCC	359	0

Appendix K:
Replacement of Missing Values

Replaced Missing Values

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	ECO01	2	1	359	359	SMEAN(ECO01)
2	ECO05	1	1	359	359	SMEAN(ECO05)
3	ECO06	1	1	359	359	SMEAN(ECO06)
4	ECO08	2	1	359	359	SMEAN(ECO08)
5	ECO12	2	1	359	359	SMEAN(ECO12)
6	ECO13	1	1	359	359	SMEAN(ECO13)
7	EEK01	1	1	359	359	SMEAN(EEK01)
8	EEK03	2	1	359	359	SMEAN(EEK03)
9	EES01	3	1	359	359	SMEAN(EES01)
10	EES03	2	1	359	359	SMEAN(EES03)
11	EES05	1	1	359	359	SMEAN(EES05)
12	EES06	1	1	359	359	SMEAN(EES06)
13	ESE03	1	1	359	359	SMEAN(ESE03)
14	ESE04	1	1	359	359	SMEAN(ESE04)
15	ESE08	1	1	359	359	SMEAN(ESE08)
16	PDE01	1	1	359	359	SMEAN(PDE01)
17	PDE03	2	1	359	359	SMEAN(PDE03)
18	PDE04	1	1	359	359	SMEAN(PDE04)
19	PDE07	1	1	359	359	SMEAN(PDE08)
20	SEN03	1	1	359	359	SMEAN(SEN03)
21	SEN06	1	1	359	359	SMEAN(SEN06)
22	SEN10	2	1	359	359	SMEAN(SEN10)

Appendix L:
Descriptive Statistics of Variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ECO01	359	1	5	4.160	1.1519
ECO02	359	1	5	4.03	1.119
ECO03	359	1	5	4.00	1.094
ECO04	359	1	5	4.06	1.196
ECO05	359	1	5	4.30	.994
ECO06	359	1	5	3.57	1.23
ECO07	359	1	5	3.58	1.183
ECO08	359	1	5	3.79	1.057
ECO09	359	1	5	3.93	.977
ECO10	359	1	5	3.98	1.101
ECO11	359	1	5	4.16	.946
ECO12	359	1	5	4.09	1.047
ECO13	359	1	5	4.22	.945
ECO14	359	1	5	4.30	.977
EEK01	359	1	5	3.74	.884
EEK02	359	1	5	3.97	.835
EEK03	359	1	5	4.03	.864
EEK04	359	1	5	3.96	.950
EEK05	359	1	5	3.56	1.122
EEK06	359	1	5	3.72	1.014
EEK07	359	1	5	3.62	.968
EEK08	359	1	5	4.01	.907
EES01	359	1	5	3.93	.916
EES02	359	1	5	4.05	.893
EES03	359	1	5	3.51	1.081
EES04	359	1	5	4.00	.887

Descriptive statistics (cont.)

EES05	359	1	5	4.03	.932
EES06	359	1	5	3.72	1.007
EES07	359	1	5	3.60	1.001
EES08	359	1	5	3.49	1.103
ESE01	359	1	5	4.28	.901
ESE02	359	1	5	4.06	.881
ESE03	359	1	5	4.16	.854
ESE04	359	1	5	4.11	.855
ESE05	359	1	5	3.97	.864
ESE06	359	1	5	3.80	1.010
ESE07	359	1	5	3.92	.935
ESE08	359	1	5	4.13	.845
ESE09	359	1	5	4.09	.918
PDE01	359	1	5	4.31	.862
PDE02	359	1	5	4.13	.947
PDE03	359	1	5	4.14	.947
PDE04	359	1	5	3.79	1.105
PDE05	359	1	5	4.22	.895
PDE06	359	1	5	4.20	.901
PDE07	359	1	5	4.04	1.016
SEN01	359	1	5	4.15	1.070
SEN02	359	1	5	3.90	1.121
SEN03	359	1	5	3.51	1.150
SEN04	359	1	5	3.62	1.152
SEN05	359	1	5	3.53	1.108
SEN06	359	1	5	3.23	1.133
SEN07	359	1	5	3.69	1.058
SEN08	359	1	5	3.40	1.199
SEN09	359	1	5	2.72	1.303
SEN10	359	1	5	3.32	1.114
AGE	359	1	4	1.20	.479
GENDER	359	1	2	1.34	.474
SUBJECT	359	1	4	2.05	1.173
PSE	359	1	2	1.35	.478
RSE	359	1	3	1.30	.465
OCC	359	1	5	3.29	1.646

**Appendix M:
Result of Pearson Correlation**

Correlations

		MEEK	MEES	MESE	MPDE
MEEK	Pearson Correlation	1	.556**	.436**	.327**
	Sig. (2-tailed)		.000	.000	.000
	N	359	359	359	359
MEES	Pearson Correlation	.556**	1	.574**	.334**
	Sig. (2-tailed)	.000		.000	.000
	N	359	359	359	359
MESE	Pearson Correlation	.436**	.574**	1	.431**
	Sig. (2-tailed)	.000	.000		.000
	N	359	359	359	359
MPDE	Pearson Correlation	.327**	.334**	.431**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	359	359	359	359

Appendix N:
Collinearity Statistics

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Zero - order	Partial	Part	Tolerance
1 (Constant)	1.464	.240		6.097	.000					
MEEK	.101	.052	.111	1.931	.054	.331	.102	.086	.598	1.673
MEES	.099	.055	.108	1.802	.072	.360	.095	.080	.553	1.809
MESE	.167	.063	.152	2.633	.009	.402	.139	.117	.597	1.676
MPDE	.320	.046	.349	6.949	.000	.479	.347	.310	.788	1.270



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Appendix O: PLS-SEM Measurement Results

Appendix O1: Cronbach's Alpha

	Cronbach's Alpha
ECO	0.843493
EEK	0.811874
EES	0.77923
ESE	0.843244
PDE	0.838735
SEN	0.782147

Appendix O2: Composite Reliability

	Composite Reliability
ECO	0.882032
EEK	0.862147
EES	0.849555
ESE	0.881646
PDE	0.881743
SEN	0.849809

Appendix O3: Average Variance Extracted (AVE)

	AVE
ECO	0.518107
EEK	0.51087
EES	0.531271
ESE	0.515932
PDE	0.554804
SEN	0.535103

Appendix O4: Latent Variable Correlations

	ECO	EEK	EES	ESE	PDE	SEN
ECO	1					
EEK	0.512508	1				
EES	0.447596	0.595487	1			
ESE	0.547863	0.556047	0.703065	1		
PDE	0.564408	0.463881	0.545124	0.646348	1	
SEN	0.293526	0.445261	0.305508	0.303253	0.384344	1

Appendix O5: Cross loading

	ECO	EEK	EES	ESE	PDE	SEN
ECO05	0.68893	0.292316	0.306718	0.367208	0.43749	0.170889
ECO09	0.633687	0.293235	0.253296	0.355722	0.403241	0.23176
ECO10	0.68574	0.353363	0.347764	0.384604	0.382883	0.19672
ECO11	0.7774	0.415713	0.345335	0.432817	0.423918	0.205787
ECO12	0.669725	0.291462	0.22824	0.310446	0.358388	0.163517
ECO13	0.795766	0.427997	0.336753	0.432254	0.420461	0.245516
ECO14	0.770844	0.471626	0.410254	0.454952	0.417494	0.253729
EEK03	0.49769	0.674888	0.43446	0.494553	0.35395	0.262033
EEK04	0.46857	0.773009	0.459808	0.460964	0.427602	0.342308
EEK05	0.307034	0.703948	0.437096	0.329535	0.281287	0.346571
EEK06	0.290027	0.704275	0.371487	0.327513	0.315763	0.302668
EEK07	0.268125	0.692456	0.420838	0.325381	0.246729	0.339494
EEK08	0.253212	0.735636	0.4139	0.369412	0.304387	0.336217
EES02	0.344422	0.435043	0.704495	0.540662	0.445872	0.194448
EES04	0.329377	0.384458	0.758409	0.549203	0.377798	0.236322
EES05	0.371057	0.475515	0.781834	0.507394	0.427207	0.245069
EES06	0.343307	0.469407	0.736028	0.53278	0.407703	0.228085
EES07	0.219777	0.403394	0.657157	0.414351	0.309255	0.210837
ESE01	0.410937	0.447068	0.539642	0.756756	0.505639	0.232805
ESE02	0.390694	0.381228	0.53101	0.732201	0.486109	0.195655
ESE03	0.392476	0.331462	0.49278	0.726116	0.460852	0.154975
ESE04	0.39897	0.39925	0.443726	0.698655	0.423153	0.263104
ESE05	0.406577	0.362002	0.47781	0.686856	0.437994	0.200803
ESE08	0.408752	0.464576	0.530133	0.746315	0.483023	0.246087
ESE09	0.345161	0.40186	0.513991	0.677205	0.447505	0.230157
PDE01	0.473197	0.364877	0.41104	0.4933	0.777165	0.235737

PDE02	0.401228	0.299216	0.428065	0.472085	0.728339	0.265931
PDE03	0.402754	0.35254	0.485608	0.523958	0.796116	0.252394
PDE05	0.377672	0.317407	0.414449	0.546158	0.755549	0.291671
PDE06	0.458889	0.383954	0.374726	0.49827	0.732709	0.320674
PDE07	0.402592	0.352357	0.31377	0.34448	0.672934	0.365079
SEN01	0.255775	0.303076	0.217145	0.280428	0.389311	0.778575
SEN02	0.249377	0.349146	0.24096	0.232365	0.356491	0.828151
SEN03	0.1167	0.311791	0.192786	0.169292	0.220593	0.689877
SEN04	0.22778	0.351259	0.25564	0.235636	0.229623	0.772483
SEN06	0.170901	0.329201	0.20501	0.155552	0.143838	0.55753

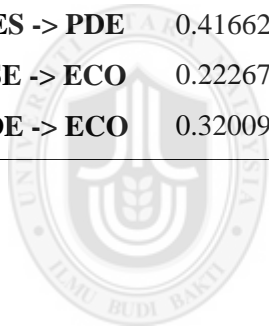


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**Appendix P:
Path Coefficients**

Path Coefficients (Mean, STDEV, T-Values)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
EEK -> ECO	0.264649	0.264335	0.064685	0.064685	4.09135
EEK -> ESE	0.212863	0.213822	0.048875	0.048875	4.355225
EEK -> ECO	0.264649	0.264335	0.064685	0.064685	4.09135
EEK -> ESE	0.212863	0.213822	0.048875	0.048875	4.355225
EEK -> PDE	0.215784	0.216772	0.054296	0.054296	3.974227
EES -> ECO	-0.04104	-0.04046	0.067981	0.067981	0.603767
EES -> ESE	0.576307	0.576535	0.046173	0.046173	12.48151
EES -> PDE	0.416628	0.416219	0.059088	0.059088	7.050994
ESE -> ECO	0.222673	0.222922	0.079276	0.079276	2.80883
PDE -> ECO	0.320094	0.322746	0.060293	0.060293	5.308985



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Appendix Q:

Result of skewness and kurtosis for indicators

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std.	Statistic	Std.
							Error		Error
ECO01	359	1	5	4.37	.944	-2.038	.129	4.324	.257
ECO02	359	1	5	4.24	.908	-1.684	.129	3.414	.257
ECO03	359	1	5	4.18	.943	-1.346	.129	1.680	.257
ECO04	359	1	5	4.24	1.011	-1.447	.129	1.490	.257
ECO05	359	2	5	4.52	.663	-1.363	.129	1.765	.257
ECO06	359	1	5	3.70	1.172	-.756	.129	-.250	.257
ECO07	359	1	5	3.71	1.080	-.761	.129	-.061	.257
ECO08	359	1	5	3.92	.948	-.967	.129	.823	.257
ECO09	359	1	5	4.08	.835	-1.015	.129	1.295	.257
ECO10	359	1	5	4.14	.963	-1.294	.129	1.480	.257
ECO11	359	2	5	4.34	.682	-.867	.129	.819	.257
ECO12	359	1	5	4.25	.835	-1.457	.129	2.942	.257
ECO13	359	2	5	4.38	.744	-1.188	.129	1.309	.257
ECO14	359	2	5	4.50	.668	-1.277	.129	1.514	.257
EEK01	359	1	5	3.85	.757	-.871	.129	1.731	.257
EEK02	359	2	5	4.09	.690	-.731	.129	1.227	.257
EEK03	359	2	5	4.16	.700	-.484	.129	-.002	.257
EEK04	359	1	5	4.11	.780	-.980	.129	1.708	.257
EEK05	359	1	5	3.71	1.057	-.463	.129	-.665	.257
EEK06	359	1	5	3.86	.892	-.862	.129	.601	.257
EEK07	359	1	5	3.71	.890	-.528	.129	-.169	.257
EEK08	359	2	5	4.13	.743	-.795	.129	.824	.257
EES01	359	1	5	4.04	.790	-1.413	.129	3.555	.257
EES02	359	2	5	4.19	.773	-.821	.129	.471	.257
EES03	359	1	5	3.58	1.048	-.585	.129	-.284	.257
EES04	359	2	5	4.10	.746	-.738	.129	.674	.257
EES05	359	1	5	4.16	.741	-.931	.129	1.477	.257
EES06	359	1	5	3.87	.858	-.635	.129	.333	.257
EES07	359	1	5	3.70	.926	-.519	.129	-.071	.257
EES08	359	1	5	3.58	1.038	-.515	.129	-.439	.257
ESE01	359	2	5	4.42	.667	-.888	.129	.375	.257
ESE02	359	2	5	4.21	.717	-.658	.129	.277	.257

ESE03	359	2	5	4.31	.669	-.787	.129	.878	.257
ESE04	359	2	5	4.26	.653	-.619	.129	.691	.257
ESE05	359	2	5	4.11	.689	-.450	.129	.209	.257
ESE06	359	1	5	3.92	.887	-.957	.129	1.079	.257
ESE07	359	1	5	4.05	.761	-.812	.129	1.273	.257
ESE08	359	2	5	4.25	.663	-.617	.129	.550	.257
ESE09	359	2	5	4.25	.700	-.685	.129	.361	.257
PDE01	359	2	5	4.45	.645	-1.016	.129	1.053	.257
PDE02	359	2	5	4.26	.771	-.850	.129	.295	.257
PDE03	359	2	5	4.31	.770	-.958	.129	.483	.257
PDE04	359	1	5	3.89	1.044	-.912	.129	.408	.257
PDE05	359	2	5	4.37	.676	-.821	.129	.428	.257
PDE06	359	2	5	4.35	.723	-1.075	.129	1.245	.257
PDE07	359	1	5	4.16	.925	-1.156	.129	1.197	.257
SEN01	359	1	5	4.22	1.011	-1.436	.129	1.540	.257
SEN02	359	1	5	4.01	1.040	-1.231	.129	1.077	.257
SEN03	359	1	5	3.58	1.123	-.546	.129	-.596	.257
SEN04	359	0	5	3.72	1.114	-.787	.129	-.080	.257
SEN05	359	1	5	3.57	1.060	-.549	.129	-.381	.257
SEN06	359	1	5	3.30	1.107	-.258	.129	-.754	.257
SEN07	359	1	5	3.79	.953	-.797	.129	.489	.257
SEN08	359	1	5	3.52	1.148	-.507	.129	-.648	.257
SEN09	359	1	5	2.77	1.292	.281	.129	-1.069	.257
SEN10	359	1	5	3.37	1.087	-.485	.129	-.507	.257
Valid N (listwise)	359								

Appendix R:

Result of skewness and kurtosis for constructs

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std.	Statistic	Std.
							Error		Error
MECO	359	2	5	4.18	.474	-.640	.129	.440	.257
MEEK	359	3	5	3.95	.525	-.453	.129	-.115	.257
MEES	359	2	5	3.90	.516	-.360	.129	-.103	.257
MESE	359	3	5	4.20	.431	-.337	.129	-.285	.257
MPDE	359	3	5	4.26	.517	-.538	.129	-.337	.257
MSEN	359	1	5	3.61	.669	-.684	.129	.579	.257
Valid N (listwise)	359								



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