

**Does personality traits kindles opportunity recognition?
An empirical analysis**

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Abstract

Background

For long, the entrepreneurship literatures has recognized entrepreneurship traits as potential means that enhance entrepreneurs competitive advantages and boost their innovative performance. Traits like self-confidence, innovativeness, need for success, locus of control and risk taking had been documented as important traits that form good entrepreneurship skills that enable opportunity recognition.

Objectives

The paper investigates whether individual personality traits (Innovativeness INN, Locus of Control LOC, Need for Achievement NAC, Self-Efficacy SEF and Tolerance to Risk TOR) have any effects on individual Opportunity Recognition (OPR).

Methodology

To ascertain the relationships between the variables, a survey was administered to 242 undergraduate students in four different tertiary institutions in Gombe State of Nigeria and SEM PLS 3 software was used for the analyses

Results

The results suggest positive and significance effect of INN, LOC, NAC, SEF and TOR on EIN.

Unique contribution

There is little evidence in the literature to suggest that the combination of these traits (INN, LOC, NAC, SEF and TOR) have been studied together in order to test how they co-relate to determining the opportunity recognition ability of undergraduate students in Nigeria

Definite conclusion

The study shows how effective are the personality traits employed by the study in predicting individual student's entrepreneurship intention through opportunity recognition.

Key recommendations

Educators should focus more on learning contents that feeds and sustains the students need to pursue meaningful life goals through entrepreneurial opportunity recognition. Thus, practical teaching strategies including the use of mentors, advisors and role models could be of great help.

Keywords: Entrepreneurship, Opportunity Recognition, Personality Traits, Undergraduate Students, Gombe State

Introduction

According to Martin and Ingrid, (2001) it is indeed difficult for several aspiring entrepreneurs to achieve their initial expectations because of huge number of failure recorded among start-ups. Right opportunities identification and selection for the establishment of new businesses are among the most essential abilities of a successful and vibrant entrepreneurship (Timmons, et al. 1987). Opportunity recognition connotes the ability of an individual or firms based on their previous knowledge and experiences to identify new ideas, goods, services, raw materials, markets and organizing methods for profitable formulation of new means, ends, or means–ends relationships (Baron, 2006; Phillips & Tracey, 2007). Lumpkin and Lichtenstein (2005, p.457) concurred that opportunity recognition entails “the ability to identify a good idea and transform it into business concepts that add value and generate revenue”. Thus, Shane and Venkataramn (2000) opined that ‘without opportunities there is no entrepreneurship’. Hence in this paper opportunity recognition is considered synonymous with entrepreneurial intention (Baručić, &Umihanić, 2016; Shahbani, et al., 2017).

Creation of a new venture is a multifarious, idiosyncratic process that begins with aspiration by a potential entrepreneur that consists of assembling several resources that may not be necessarily at the disposal and control of the entrepreneur (Venkataraman&Sarasvathy, 2001). Opportunities are said to be available when an individual displays distinct understanding of the uncommon opportunities and act upon them, and that led to ‘entrepreneurial rent’; and if fails to act, it results to ‘entrepreneurial loss’ (Alvarez & Barney 2000).

One of the important questions continuously being discussed in the field of entrepreneurship is ‘why entrepreneurs recognize opportunities that nonentrepreneurs fail to recognize?’ Dyer et al. (2008) argued that largely, differences in social networks, personality traits, and cognitive styles are the factors that predict individual opportunity recognition ability. Individuals with unique entrepreneurial traits are success driven, and are more likely to partake in the right opportunity recognition and exploitation that ensure their success (Kerr, Kerr &Xu, 2018; Lim, 2018; Wasdani& Mathew, 2014); and individual’s traits suggest their desire to perceive and pursue potential opportunities (Wang, et al. 2013). Gartner (1990, p.27) concurred that “Entrepreneurs are distinguished by their propensity to recognize opportunities”. Short et al., (2010) stated that ‘a potential entrepreneur can be enormously creative and hardworking, but with the absence of proper identification of opportunities, entrepreneurial activities cannot take place’ (pp.40). More so, literature affirms that establishment of an entrepreneurial firms is an outcome of individual decision and traits (Herath, 2014). Hence, individual level of these traits plays a dominant role in the success of his venture. Individuals possessing certain traits have a higher inclination to entrepreneurship than those who do not possess them (Shane et al. 2003). For long, the entrepreneurship literatures has recognized entrepreneurship traits as potential means that enhance entrepreneurs competitive advantages and boost their innovative performance (De Carolis&Saparito, 2006; Herath, 2014). Traits like self-confidence, innovativeness, need for success, locus of control and risktaking had been documented as important traits that form good entrepreneurship skills that enable opportunity recognition (Stevenson et al 1985;Fairlie&Holleran, 2012;Wang, et al. 2013;Kerr, et al., 2018; Lim, 2018). Understanding traits influencing entrepreneurial motivations in multiethnic and multicultural society like Nigeria is pivotal in comprehending entrepreneurial intentions among individuals; since the personality of entrepreneur is basically what predict his behaviour and reaction towards the business environment (Ayoade, et al., 2018; Palladan & Ahmad, 2019).

There is little evidence in the literature to suggest that the combination of these traits (innovativeness, locus of control, need for achievement, self-efficacy and tolerance to risk) have been studied together in order to test how they co-relate to determining the opportunity recognition ability of undergraduate students in Nigeria. Thus, such an oversight repudiates scholars, practitioners and policymakers the ample opportunity of fully understanding how entrepreneurship education shapes the behaviour of individual potential entrepreneur.

Theoretical Background

This section highlights the broad concepts of personality traits, entrepreneurship opportunity recognition and entrepreneurship education as the moderating variable of the study. The personality traits covered here are innovativeness, locus of control, need for achievement, self-efficacy and tolerance to risk. Narrow personality traits have been recognized as good predictors of industrious behaviours as well as agile actions of entrepreneurs (Llewellyn & Wilson, 2003). These narrow traits herein were deliberately selected because they are found to predicts better outcome of entrepreneurship intentions than the broad traits like Extraversion and Conscientiousness (McAdams, 1992; Rauch & Frese, 2007; Fairlie & Holleran, 2012; Leutner, Ahmetoglu, Akhtar et al., 2014; Fayolle & Liñán, 2014; Liñán & Fayolle, 2015). This couple with limitations associated with the Big-5 framework in coherently describing entrepreneur portrait (Kamfer, 1992; Rauch, 2014; Kerr, et al., 2018).

However, there is also counter argument suggesting that psychological traits of individuals are stable, hence exposure to external interventions cannot alter them (Cobb Clark & Schurer, 2012). Other scholars equally cast doubt on the predictive power of psychological traits on entrepreneurial opportunity recognition (Llewellyn & Wilson, 2003). But it is important to note that findings from aforementioned studies were heavily rooted on the big five personality attributes and failed to clearly define the nature of entrepreneurial intentions in question (Fayolle & Liñán, 2014; Liñán & Fayolle, 2015).

Innovativeness

In general view, innovativeness connotes how individual respond to new things (Goldsmith & Foxall, 2003). Innovative capabilities of an individual come to bare when he develops personal mastery involving combination and exchange of intellectual and social capital (Littunen, 2000). Innovativeness on its self cannot serve as an end but add to entrepreneur's drive in exploiting more opportunities (Gregoire & Shepherd, 2012). Thus, identifying opportunities is necessary, but insufficient for entrepreneurial action (Shane & Venkataraman, 2000). Sustainable entrepreneurship development is achieved when innovative initiatives gradually empowers the entrepreneurs to discover and exploit available opportunities through their creativity by creating/modifying new products or services. Extant literature suggest that in their quest for opportunity exploitation, entrepreneurs after discovering an opportunity, they prepare decision templates on which to act upon, that contains the novel and creative ideas related to what they want to exploit (Wood & Williams, 2014).

Innovativeness has been affirmed by prior literature to facilitate flexibility, risk-taking, courage, and intrinsic motivation in entrepreneurial activities (Lorenz, Ramsey & Richey Jr, 2018). These factors and others as well have been found to be part of an entrepreneur job assignment (Debic et al, 2015). Laden by uncertainty and constrained by limited resources, entrepreneurs as opportunity exploiters need to be creative and agile (Elkington & Hartigan, 2008). Innovation unlocks value by creating a platform that offer solutions

through a synergistic combination of capabilities that encompass products, processes and technology (Auersweld, 2009).

Locus of Control

Locus of Control (LOC) is the degree of how an individual exercise control over his life (Karabulut, 2016). People with higher internal LOC believe that their actions can control their environment, hence they tend to take risks by grabbing opportunities through the creation of new business ventures. An individual that possess internal LOC believes that their lives is control by their own decisions, while on the contrary a person with external LOC accept that the true factors that control his life are fate, chance or other environmental feature beyond his control. People with internal LOC have confidence and believe that they have control over outcomes that affect their lives through their own effort, ability and skills, instead of believing that external forces control these outcomes.

Previous studies reported posited relationships between internal control and entrepreneurial opportunity recognition (c.f. Gartner, 1985; Perry, 1990; Shaver & Scott, 1991). On the other hand, studies indicates that entrepreneurs possess higher LOC than other people (Brockhaus et al., 1986; Hansemark, 1998; Mueller & Thomas, 2001), and businesses that survive for three or more years must have had individuals with higher LOC behind them (Horwitz&Horwitz, 1986).

Need for Achievement

Need for Achievement originated from the works of McClelland (1985) “acquired-needs theory”. The concept was initially promulgated by Murray (1938), and later enhance and propagated by McClelland (1961, 1985). According to Kerr, et al. (2018) the need for achievement ‘connotes individual’s desire for significant accomplishment, mastering of skills, and attaining challenging goals’. Scholars had hypothesize that entrepreneurs need to hold a high need for achievement, since establishing a new venture from the scratch suggests individual abilities to swim amid difficult terrain in putting together system responsibilities that are diffuse. Need for achievement has equally been pointed as one of the dominant needs influencing individual actions in a place of work.

Prior literatures have discovered that a high need for achievement predicts entry into entrepreneurship for opportunity recognition. Examples are: from AustriaKorunka (et al., 2003) and from Turkish Gürol and Atsan, (2006). Mueller and Thomas (2000) formSwitzerland discovered that Swiss entrepreneurs possess higher need for achievement than entrepreneurs from the U.K. indicating that the trait differs across countries and cultures. In their own part, Stewart and Roth (2007) posits from their meta-analysis that entrepreneurs demonstrate a higher achievement motivation than managers irrespective of country they came from or type of instrumentation they received. More so, other researchers established a link between the need for achievement and venture performance. Collins et al. (2004) and Rauch and Frese (2007) found that both projective and self-reported indicators of achievement motivation influences entrepreneurial intentions and performance.

Self-Efficacy

Self-efficacy relates to individuals’ conscious beliefs that by using their own abilities and skills they can perform a particular task (Bandura, 1986). Self-efficacy connotes person’s “belief that he can perform tasks and fulfill roles, and is directly related to expectations, goals and motivation” (Cassar& Friedman, 2009). Normally, individuals tend to avoid tasks which they have low self-efficacy on; while giving more emphasis on tasks they believe they have higher self-efficacy (Forbes, 2005).Several studies had hypothesized the strongness of personal self-

efficacy on entrepreneurship intention and growth. Literature on self-efficacy in the context of entrepreneurship posts that the variable can predict individuals' intentions of starting a new venture (Krueger & Brazeal, 1994; Luthje & Franke, 2003; Pittaway et al., 2010; Radipere, 2012). More so, literature also asserts that high self-efficacy correlates with work-related performance (Stajkovic & Luthans, 1998), small business growth (Baum & Locke, 2004), lecturers job performance (Palladan, 2018), as well as career choice (Lent & Hackett, 1987). Self-efficacy is measured either as general self-efficacy or Entrepreneurial Self-Efficacy (ESE).

The entrepreneurship self-efficacy construct is well established in literature. Those individuals who want to venture into entrepreneurs must see themselves as capable and psychologically equipped in order to function properly and remain motivated. Numerous intention-based models were developed theory supporting the effectiveness of self-efficacy, e.g. Ajzen's (1991) planned behaviour theory, as well as Shapero's (1982) model of entrepreneurial event. Empirical results suggesting positive relationships between entrepreneurship self-efficacy and opportunity recognition were equally documented. Students from three business study programmes were surveyed by Chen et al. (1998) and found that self-efficacy is more pronounced on entrepreneurship students in field of management, marketing and financial management than other students from psychology and management. Again, Chen et al. (1998) also discovered that self-efficacy trait enhance entrepreneurs innovation and risk-taking abilities.

Tolerance to Risk

Another important trait that predict opportunity recognition is entrepreneur's tolerance to risk. Ahmed, (1985) define risk-taking propensity as dealing with uncertainties and the degree of readiness to bear it. In their quest for success, entrepreneurs take on significant risk for them to achieve high growth. Risk in entrepreneurship is operationalized as venturing into unknown investments and ventures with high risk (Baker & Sinkula, 2009). Karabulut (2016) stated that tolerance to risks is an essential trait for entrepreneurs to succeed. As anybody else, entrepreneurs shoulder the burden of taking care of their families as well as other responsibilities, yet they decide to take the risk by investing their resources to establish their own ventures. This could not be possible without element of risk tolerance. Schumpeter argued that entrepreneurs need to take risks when making decisions (Brockhaus & Horwitz, 1986). Entrepreneur risk taking attitude is what differentiate him from managers or employees (Brockhaus & Horwitz, 1986; Iversen et al, 2008). Jain and Ali (2013) stated that risk taking is a psychological variable reflecting individual's ability to accept calculated risks and realistic challenges.

Prior empirical and anecdotal literatures posits that the risk taking propensity of an entrepreneur is a key factor to understanding his drive for opportunity recognition and exploitation (Gürol & Atsan, 2006; Tang & Hull, 2012). In their study, Sánchez, (2011) discovered the influences of risk taking on entrepreneurial intention. Drawing from sample of Swedish SMEs, Naldi, et al. (2007) discovered that risk taking is a distinct dimension of entrepreneurial orientation in family businesses and has positively correlation with innovation and pro-activeness. Covin and Slevin, (1991) in their model described entrepreneurship as a dimension of strategic posture represented by business enterprise risk-taking propensity in terms of tendency competitive aggressiveness, pro-activeness, and reliance on product innovation. Analyses of variance conducted by Zeffane, (2015) confirmed that females are less inclined to

become entrepreneurs and are less likely to take risk. They also found that females were less trusting than males.

Based on the literature reviewed above, the following hypotheses were postulated:

Hypothesis 1: Innovativeness will be positively associated with opportunity recognition

Hypothesis 2: Locus of control will be positively associated with opportunity recognition

Hypothesis 3: Need of achievement will be positively associated with opportunity recognition

Hypothesis 4: Self-efficacy will positively associated with opportunity recognition

Hypothesis 5: Tolerance to risk propensity will be positively associated with opportunity recognition

Methods

The final pooled sample consisted of 242 undergraduate students offering Entrepreneurship courses in tertiary institutions situated in Gombe state of Nigeria. Business undergraduate students are more likely than other non-Business students to embark on an entrepreneurial career. Scherer, et al. (1989) argued that individuals studying business already possesses an interest in pursuing business related careers and have the education required to run a business. Hemmasi and Hoelscher (2005) suggest that samples drawn from student are similar to the sample of actual entrepreneurs provided they have high entrepreneurial potential.

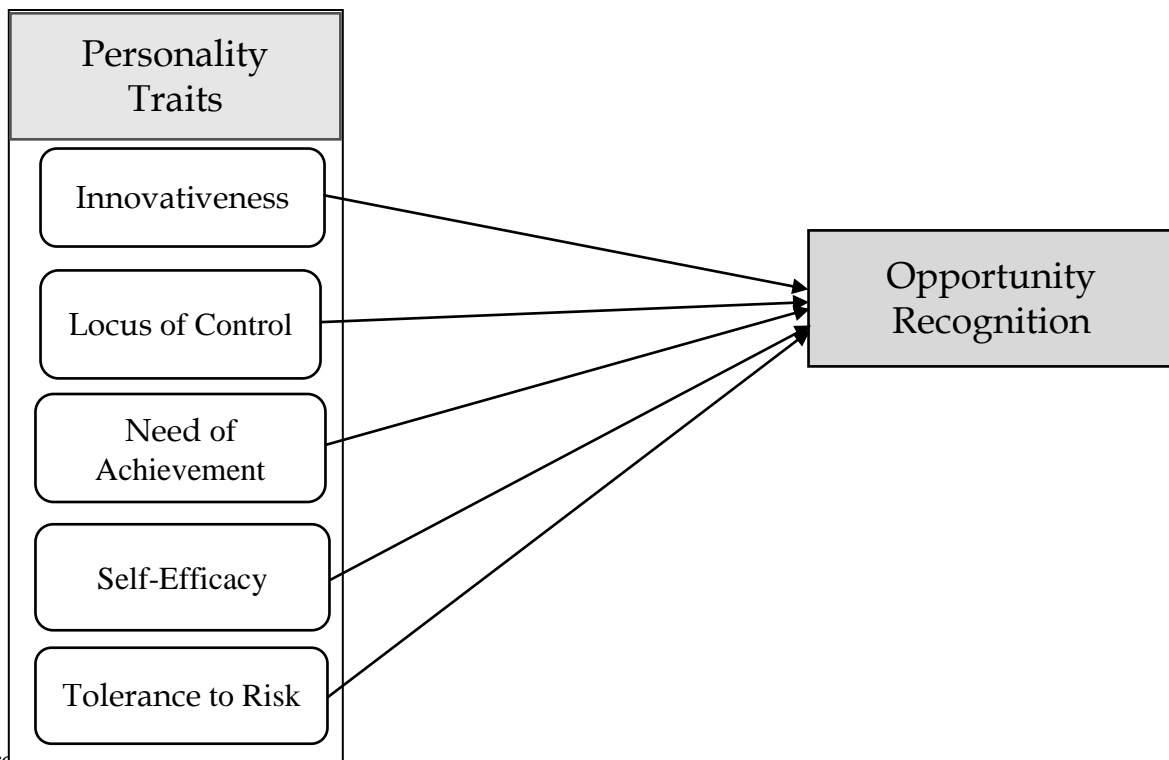


Figure 1
The Research Model Showing the Directs Relationships

Non-probability convenience sampling procedure was adopted by the study. Several previous studies on entrepreneurship equally used this sampling technique (c.f Louw et al. 2003; Wilson, et al. 2007; Wu 2007; Thompson 2009; Wilson et al. 2009; Nowiński et al., 2019). In this vein, et al. (2004), though acknowledging the issue related to generalization, yet argued that non-

probability sampling can lead to good quality data for samples with high response rates. It is also argued that employing convenience sampling permits the researcher to be assured of appropriateness of his respondents (Carland, et al. 2001).

. To determine whether the procedure adopted in distributing the survey could have hampered the result, t-tests were conducted for all items as well as the model. Partial Least Square Structural Equation Modeling (Ringle, et al. 2015) was used to assess the model. PLS SEM was employed instead of covariance-based, because SEM was tallowed for the exploring of complex relationships like this model of ours that has multiple directs and indirect relationships. In this kind of condition, PLS-SEM would naturally seem to be the choice (Lowry & Gaskin 2014; Hairetal.2016).

Results and Discussion

Presenting the measurement mode

The study consist of three constructs, one multi-dimensional and two unidimensional. The two exogenous variables (personality traits and entrepreneurship education) are as well as the indigenous variable (opportunity recognition) were all reflective.

Table 1: Discriminant validity of the constructs

	1	2	3	4	5	6	7
ETE	0.639						
INN	0.357	0.656					
LOC	0.221	0.152	0.648				
NAC	0.419	0.515	0.160	0.703			
OPR	0.593	0.435	0.370	0.533	0.766		
SEF	0.332	0.497	0.133	0.436	0.385	0.847	
TOR	0.344	0.399	0.392	0.273	0.434	0.161	0.725

Note: Values on diagonal represent the square root of the AVE

To measure their reliability, composite reliability and Cronbach’s alpha was used, while in assessing convergent validity of the constructs, average variance extracted (AVE) was adopted. As depicted in Table 1. All the measures look pretty good. Again, Fornell and Larcker criterion (1981) on discriminant validity is achieved when square root of AVE is above the correlations with the remaining constructs. As Table 3 indicates, this criterion has been fulfilled (values of AVE square roots are on the diagonal).

Table 2. Measurement model items for the reflective constructs

	Cronbach's alpha	Composite Reliability	AVE	VIF
ETE	0.756	0.827	0.709	1.356
INN	0.786	0.787	0.630	1.740
LOC	0.738	0.740	0.520	1.201
NAC	0.856	0.795	0.594	1.554
OPR	0.765	0.850	0.587	1.463
SEF	0.706	0.835	0.617	1.456
TOR	0.848	0.769	0.526	1.441

Additionally, we ascertained whether multicollinearity problems exist through the assessment of the VIFs. These were equally found to be below 5, with the highest at 1.6 as portrayed on Table 2

The Structural model

After the validation of the measurement model, the structural model was assessed. Table 3 presents the results of the tested direct hypotheses (H1–H5) as well as their statistical significance level obtained from the structural model. While Table 4 depicts the tested results of the moderating relationships among the variables (H6 – H10).

Table 3 Results of hypothesis testing via bootstrapping

Direct path	Path coefficient	T Statistics	P Values	Decision
H1: INN_ -> OPR	1.980	1.789	0.030	Supported
H2: LOC -> OPR	2.272	2.462	0.014	Supported
H3: NAC -> OPR	2.201	2.464	0.014	Supported
H4: SEF -> OPR	2.199	1.245	0.013	Supported
H5: TOR -> OPR	2.217	2.111	0.035	Supported

This study explored the effects of different personality traits on OPR along with moderating effect of entrepreneurship education. In line with this, hypothesis testing we conducted in order to verify the links between the variables. A hypothesis is considered to be significant if its path coefficient is higher than 1.96 and its p-value under 5%. For the direct relationships (Table 3), INN, LOC, NAC, SEF and TOR were found to have positive effects on OPR with p values 0.030; 0.014, 0.014, 0.013, 0.035 respectively. From the Table, SEF was found to have highest effect on OPR with P value 0.013, while TOR has the least effect with p value 0.035. The results suggest that student's innovative ability, both internal and external locus of control, need for achievement, self-efficacy as well as propensity to take risk have determined their ability to recognize business opportunities. Hence these traits need to be harness. These findings are supported by studies conducted by Yan, (2010) and Öztaş, et al. (2017) who discovered a positive directional significant relationships between personality traits and entrepreneur practices. Nonetheless, they are in congruent with other study by Hmieleski and Corbett (2006) that discovered no such relationships

Implication of the Study

Findings from the study have both practical and theoretical implications. One of the important implication for researchers is how the study highlight the relevance of personality traits to entrepreneurial research which it had "initially falsely assumed that personality research did not offer it anything useful" (Frese&Gielnik, 2014, p. 414). For practitioners, this study posed a serious question of whether the pedagogical methods employed in teaching entrepreneurship education in tertiary institutions domiciled in Gombe State are effective enough considering the absence of moderating effect of entrepreneurship education between the four personality traits and opportunity recognition. Previous empirical and anecdotal evidences had recognized the

positive and significance role of entrepreneurship education in predicting and boosting entrepreneurship activities (Radipere, 2012; Weber, 2013; Hsu & Powell 2014; Ndofirepi, 2020). Hence there is need for entrepreneurship educators in Gombe state to revisit their teaching strategies. For instance, pedagogical methods could be designed in way they heighten students' awareness on the rewards associated with pursuing an entrepreneurship rather than trying to push into the throats of the students how to start a business after graduation. Again, educators could further focus more on learning contents that feeds and sustains the students need to pursue meaningful life goals through entrepreneurial opportunity recognition. Lastly, practical teaching strategies including the use of mentors, advisors and role models could be of great help.

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Conflict of Interest

We declare no conflict of interest in this study

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Authors Contributions

Dr Ahmed Aliyu Palladan being the lead researcher shoulder the burden of literature review and data analysis; while Muhammad Adamu Ahmad took the responsibility if data collection and questionnaire coding.

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