

# Antecedents of Entrepreneurial Processes of Effectuation and Opportunity Creation

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To Link this Article: <http://dx.doi.org/10.6007/IJAREMS/v11-i2/13233>

DOI:10.6007/IJAREMS/v11-i2/13233

*Published Online:* 09 June 2022

## Abstract

Extant literature of Entrepreneurial opportunity studies has identified two opposing theoretical viewpoints. Theory of opportunity discovery known as “causation” is the initial perspective. The second perspective is opportunity creation. The legitimacy of opportunity discovery theory in studying entrepreneurship is challenged by scholars. Among many developing theoretical perspectives, Sarasvathy's (2001) effectuation theory is extensively cited in entrepreneurial literature. Due to the novelty of effectuation theory, previous studies of opportunity creation are conceptual in nature or qualitative, and at best experimental; the antecedents of effectuation theory are unexplored. A questionnaire was created and distributed to 1,950 in Nigeria. The objectives of this study are (i) to discover factors that can predict entrepreneurs' effectual behaviours, (ii) to observe the effect of entrepreneurial effectuation on opportunity creation process and (iii) to explore how venture performance is affected by entrepreneurial opportunity creation. Findings of this study established that entrepreneur's management skill and entrepreneurs' personality traits characteristics are significant to entrepreneurial process effectuation. Also entrepreneurial process of effectuation is a significant predictor of entrepreneurial opportunity creation.

**Keywords:** Effectuation, Causation, Opportunity Creation, Venture Performance

## Introduction

Extant literature of Entrepreneurial opportunity studies has identified two opposing theoretical viewpoints. Theory of opportunity discovery known as “causation” is the initial perspective by (Sarasvathy, 2001). The second perspective is opportunity creation. The validity of opportunity discovery as a theory for the study of a multifaceted phenomenon like

entrepreneurship is challenged by scholars (Alvarez et al., 2010; Sarasvathy, 2001; Alvarez & Barney, 2007; Chandler et al., 2011). According to Eisenhardt et al (2010), “emerging theoretical perspective” are developed to describe the fundamental behaviours of entrepreneurs, other scholars describe this new perspective as pragmatist model of entrepreneurship (Rescher, 2005; Peirce, 1931).

Sarasvathy's (2001) theory of effectuation is mostly cited within the literature of emerging entrepreneurial theoretical perspectives. As a result of the novelty of effectuation theory, existing studies of entrepreneurial opportunity creation are experimental, qualitative or conceptual. So far the antecedents of effectuation are unexplored (Harms & Schiele, 2012). The objectives of this study are (i) to discover factors that can predict entrepreneurs' effectual behaviours, (ii) to observe the effect of entrepreneurial effectuation on opportunity creation process and (iii) to explore how venture performance is affected by entrepreneurial opportunity creation.

Entrepreneurial effectuation process has captured the attention of numerous scholars (Perry et al., 2012; Fisher, 2012, Sarasvathy & Dew, 2007; Chandler et al., 2011; Sarasvathy & Dew, 2008; Svensrud & Åsvoll, 2011). The current Entrepreneurial opportunity creation literature, have not given antecedents of opportunity creation attention. Numerous scholars argue that entrepreneurial effectuation process influences opportunity creation (Wiltbank et al., 2009; Sarasvathy & Kotha, 2001). According to Pfeffer (1993) paradigm shifts are time taking in fields where there is less agreement concerning accepted theories, models and paradigms. Entrepreneurial scholar argued that the conventionally entrenched model of entrepreneurship taught in business schools is responsible for causal process (Fisher, 2012; Harms & Schiele, 2012, Brettel et al., 2012). Most entrepreneurial researches are based on neoclassical economics theory, and studies in this field have been well explores and matured. On the other hand, factors responsible for effectuation process (which is rooted in the beliefs of pragmatism) have not been identified.

The purpose of this study is to see if education, personality attributes, and management skill may be used as predictors of the effectuation process. These elements have been suggested to have an impact on the entrepreneurial causation process, with scholars arguing that the causation and effectuation processes are not the same (Sarasvathy's, 2001). The causation process is planned strategy models, and the effectuation process is consistent with emergent strategy processes (Mintzberg, 1978).

This study makes three important contributions. First, as reported by Cunningham & Lischeron, (1991), this research has eclectically integrated the great person and psychology schools of thought into a unified construct called “Personality Traits” (1991). Entrepreneurial behaviour is defined by evaluating personal attributes, according to the great person and psychological schools of thought. These two schools of thought have been combined into a single construct (Personal characteristics) that is used to predict effectuation. Second, management and leadership schools view entrepreneurs as people who act and manage, and as such, they are expected to have “management skills” (Sambasivan et al., 2009, p.799). Entrepreneur's decisions to engage in effective processes are influenced by management and leadership schools. Finally, this research is being carried out in Africa. The majority of entrepreneurial studies to date have been undertaken in Western countries (Lau et al., 2004; Zhao & Aram, 1995; Lin, 1998) and this study would be one of the first to investigate the antecedents of effectuation in Nigeria. A smaller sample of 65 enterprises in Germany was used in a previous study on the antecedents of effectuation (Harms & Schiele, 2012). This will

be the first quantitative study to incorporate 360-degree replies. Figure 1 depicts the framework employed in this investigation.

## Literature Review

### Entrepreneurial Opportunity Creation and Effectuation

“Effectuation provides a challenge to conventional, established entrepreneurial strategy wisdom,” according to (Perry et al., 2012, p.838). Herbert Simon's work was the inspiration for effectuation theory, and Sarasvathy worked closely with him to develop it (Sarasvathy & Simon, 2000). Sarasvathy established the notion of effectuation by analysing expert entrepreneurs who challenged the causal logic of predictability using think-aloud procedures.

Control becomes the key beginning point for a process for an effectuator who follows these concepts. Where effectuation and causation differ is in controlling the tools available rather than focusing on future results. Experts in the field of entrepreneurship, according to Sarasvathy's research, used the process of effectuation to a greater extent than beginner entrepreneurs who preferred causal logics.

### Age

Age-related research has produced mixed results. Denison & Alexander (1986); Cooper et al (1988) discovered that elderly entrepreneurs had a lower probability of experiencing growth. Previous research has also shown that family support can be beneficial or harmful. Renzulli et al (2000) for example, discovered a negative linear association between the number of kin in entrepreneurs and their likelihood to start new businesses. The following theories are based on the reasoning presented above

*H1: The age of the entrepreneur will have a favourable impact on the entrepreneurial process.*

### Education

Numerous researches on the role of education on entrepreneurial reward have been undertaken. The entrepreneurial role of “creative destruction,” according to Parker and van Praag (2006), cannot be performed if they confront constraints such as human capital (education). Education has the potential to be a tool for fostering entrepreneurship (Tokila & Tervo, 2010, p.690). Three dimensions were used to assess the characteristics of entrepreneurial education programs. Entrepreneurial education was defined as “entrepreneurship education comprised courses in specialized educational centers and institutions as well as self-taught education in both additional management education and entrepreneurship education” in a study by (Cruz et al., 2009). Education and training in business tasks (marketing, finance, manufacturing, operations, and so on) as well as the core business's (p.202). Formal education is the third component of education. Only entrepreneurial education, according to Cruz et al (2009), has a direct and positive effect on satisfaction with innovation behaviour. As a result, we propose the following hypotheses

*H2A: Entrepreneurial special education will have a favourable impact on the process of entrepreneurship.*

*H2B: Entrepreneurial education will have a favourable impact on the process of starting a business.*

### Personality Traits

Personality theories have emphasized the importance of personal predilection in business success (McClelland, 1965). Entrepreneurial characteristics are particularly vital to venture success, according to venture capitalists (McMillan et al., 1985). Personality traits, according to Caprana and Cervone (2000), are inclinations to respond in a certain way in different contexts. A lot of research has been done on the personalities of entrepreneurs (Shaver & Scott, 1991). Numerous academics (Gartner, 1985, Low & MacMillan, 1988; Aldrich, 1999) have raised major issues about the significance of personality in the start-up phase and business success. Bateman and Crant (1993) contended, however, that the death knell for personality and entrepreneurship research may have been sounded prematurely. Personality qualities, according to Rauch and Frese (2000), are determinants of entrepreneurial behaviour. Furthermore,, Smith et al (2001) claimed that current leadership research has highlighted tenacity, enthusiasm, proactivity, goal-striving, and self-confidence as traits of successful entrepreneurs. 'Optimism,' 'self-efficacy,' and 'creativity,' according to Ardichvili et al (2003), are three personality factors linked to good opportunity recognition. We opted to investigate proactivity, passion, and optimism as potential causality factors.

The construct personality qualities are made up of the proactivity, passion, and optimism of entrepreneurs. In the field of entrepreneurship, having a proactive personality is crucial. Proactivity, according to (Bateman & Crant, 1993), captures the idea of humans playing an active role in their environments by making changes rather than passively reacting to and accepting the demands of their circumstances without protest. Similarly, Rauch, Wiklund, Lumpkin and Frese (2009) define proactivity as a forward-thinking, opportunity-seeking mindset defined by the launch of new services and products ahead of the competition and anticipating future demand. Individuals are anticipating future events by thinking, reasoning, planning, calculating, and acting in advance (Grant & Ashford, 2008; Bandura, 2006). Although not all proactive behaviours are good, according to Bateman and Crant (1993), the majority of study focuses on the benefits that proactivity brings to individuals, groups, and organizations. Crant (1996) investigated the link between proactive personality and entrepreneurial goals. A proactive attitude is favourably connected with entrepreneurial goals, according to the study's findings. In their research, Becherer and Maurer (1999) discovered substantial links between a small firm president's proactivity and the firm's competitive stance and sales growth. Kickul and Gundry (2002) found a substantial association between small business owners' proactive disposition and the level of creativity in their adopted tactics in another empirical investigation. Furthermore, José Acedo and Florin (2006) found that an individual's proactivity is linked to entrepreneurial aspirations and behaviour in terms of their firm's potential to compete and expand. Individuals who are proactive predict and visualize a future outcome, then pick and adjust events to achieve that end. Proactive entrepreneurs in Nigeria's building materials business would analyse both causation and effectual process. This is due to the fierce competition in the Nigerian construction materials business. To survive, entrepreneurs must be proactive in their business.

Passion is defined as 'a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy (Vallerand et al., 2003) Obsessive and harmonized passions are suggested. Obsessive passion (OP) is the internalisation of an activity in one's identity that causes an internal demand to engage in the activity that the individual enjoys. "Harmonious passion" (HP) is an independent internalization that encourages people to choose to do what they enjoy. (p.756). Chen et al (2009), defined entrepreneurial passion as "an entrepreneur's intense affective state accompanied by cognitive and behavioural manifestations of high personal value," (p.199). Alternatively, the entrepreneur's enthusiasm

Cardon et al (2005) is at the heart of his or her success. Entrepreneurial action can be fuelled by a person's passion. Brännback, Carsrud, Elfving & Krueger (2006) state that passion can "fuel motivation, boost mental activity, and bring significance to everyday labour. Passion is one of the micro-level factors that may influence an entrepreneur's proclivity for good affect (Baron, 2008). Entrepreneurs' ability to raise funding from investors has been linked to their passion (Mitteness et al., 2012). Numerous academics believe that a better comprehension of Chen et al (2009) passion's construct is required. Scholars in the field of leadership have claimed that great company executives have a love for their work (House & Shamir, 1993). Passion is also said to be important in the context of business since it motivates entrepreneurs to overcome tremendous uncertainty and resource constraints (Timmons, 2000). Entrepreneurs in Nigeria's construction materials market who are passionate about their business would examine the two processes of opportunity as causality and effectuation. This supports the premise that the building materials industry has various obstacles, including capital requirements, transportation, storage, and security. To succeed, entrepreneurs must be enthusiastic about their business.

In terms of revenue and employment, only a small percentage of new businesses grow to become significant firms (Cassar, 2006). Despite this reality, the fact that entrepreneurs persist in the face of adversity indicates that they have a high level of dispositional optimism and deed (Hmieleski & Baron, 2009). The impact of various types of entrepreneurship on a country's innovativeness and economic growth rate has been studied (Sternberg & Wennekers, 2005). Optimism, according to Scheier and Carver (1992), defines optimism "as the tendency to believe that one will generally experience good verses bad outcomes in life" (p.203). Furthermore, according to Fraser and Greene (2006, p. 169), 'optimistic attitudes may assist individuals overcome uncertainty and, as a result, encourage entrepreneurial engagement.' Entrepreneurs are reported to be more optimistic than employees, and as they gain expertise, their level of optimism and uncertainty decreases (Fraser & Greene, 2006). Optimistic people are confident in their ability to achieve successful ends despite not being able to visualize the path that would lead them there—they simply believe that everything will turn out well in the end (Scheier et al., 2001). Busenitz and Barney (1997) found that entrepreneurs overestimate the likelihood of being correct and overgeneralize from a few traits or observations substantially more than managers of large, established organizations in an empirical research. In contrast, Hmieleski and Baron (2009) found a negative association between entrepreneurs' optimism and their new companies' performance (revenue and employment growth). Entrepreneur optimism research has generated mixed outcomes in general. Goodin et al (2012) found that optimism was associated with improved condition pain regulation. In the construction materials sector, optimism will have a strong link to the causation process for identifying opportunities. Due to the fact that not all firms succeed, only the most optimistic entrepreneurs will embark on a business venture. Entrepreneurs in the building materials market must be proactive, passionate, and optimistic to succeed. We propose the following hypothesis based on the preceding arguments

*H3: The personality attributes of entrepreneurs will be positively related to the process of effectuation.*

### **Management Skill**

Entrepreneurs are characterized by management and leadership schools as individuals who act and manage a firm. Entrepreneurs are organizers of business ventures, persons who

organize, own, manage, and assume risks, according to management school (Cunningham & Lischeron, 1991). 'Entrepreneurs can be created or trained in the technical tasks of management,' according to the school. Entrepreneurs also engage in the following behaviours: 'production planning, human resource management, capitalization, and budgeting' (Cunningham & Lischeron, 1991.p.47). Entrepreneurs, according to the Leadership school, are "people leaders." They are able to adjust their approach to the needs of others, "and it is assumed that" an entrepreneur cannot achieve his or her aim on his or her own, but must rely on others. "Motivating, guiding, and leading are among the behaviours and skills of entrepreneurs" (Cunningham & Lischeron, 1991.p.47). These two schools of thought have been integrated into a single construct (management abilities), which is also hypothesized to predict effectuation process.

According to Khan and Rocha (1982), a small business owner/manager strengthens his or her managerial practice in order to avoid major challenges and final failure. They go on to say that the managerial domains of accounting, cash flow management, and marketing are all interconnected, and that a lack of expertise in one can cause an issue in another. "Increased management education" is one of the most frequently claimed reasons for lowering small business failure (Peterson et al., 1983). We merged two management skills in this study, and the dimension of management skills includes the following skills: social network and utilizing other people's resources. We propose the following based on the preceding arguments

*H4: The management ability of entrepreneurs will be positively associated to the entrepreneurial effectuation process.*

### **Effectuation**

Entrepreneurs in organizations (intrapreneurs) are those who reassess and adjust, according to the intrapreneurship school (which Sarasvathy called effectuators). Entrepreneurs that participate in the effectuation process create opportunities. The construct effectuation is made up of experimentation, flexibility, and affordable loss.

### **Experimentation**

Chandler et al (2011) define experimentation as "part of the process of establishing a suitable business model." 'Experiments that fail are halted early, allowing the entrepreneur to pursue other opportunities' (p.380). Experimentation has been discovered to be a low-cost means of probing the future (Brown & Eisenhardt, 1997). According to McGrath (1999), in real options reasoning, investment can be redirected away from experiments that are not performing well.

### **Flexibility**

Sarasvathy further points out that effectuators tend to be adaptable because the form of the growing organization is based on the contingent opportunities available. "The necessity for prediction is considerably reduced" as a result (Sarasvathy, 2001: 252). Start-up companies have an advantage over established businesses in terms of flexibility. When a company is created and grows, it develops procedures, policies, and routines (March & Simon, 1958).

### **Affordable Loss**

"Affordable loss relates to advance commitment to what one is willing to lose rather than engaging in calculations about expected returns to the project" (Sarasvathy, 2008. p. 21). The term "affordable loss" refers to instances in which investment decisions are made with the

goal of reducing risk. Furthermore, goal-setting focuses on sticking to budgets and timetables, resulting in process efficiency (Dew et al., 2009). Entrepreneurs who generate financial projections during the start-up period, according to Tornikoski and Newbert (2007), are more likely to succeed in forming new businesses. Also, Read, et al (2009), discovered evidence that specialists are aware of the dangers connected with beginning a new business. They are more inclined to consider cost when making decisions in order to exert some control and reduce the risk of failure. The level of uncertainty and risk is rather simple to assess. Reliable return estimates, on the other hand, necessitate data such as market acceptance and sales volumes, which are notoriously difficult to estimate (Brettel et al., 2012). Commitments to the project budget and schedule help avoid over spending, therefore a successful strategy should improve investment efficiency. We propose the following possibilities based on these arguments:

*H5: The process of entrepreneurial effectuation is linked to the generation of opportunities.*

### **Opportunity Creation**

According to the Intrapreneurship School of Thought “entrepreneurial talents can be valuable in complex organizations, ‘and’ organizations must adapt to survive” (Cunningham & Lischeron, 1991, p.47). The ability to create opportunities is less developed than the ability to recognize and recognize opportunities (Alvarez & Barney, 2007). Action and Reaction, Socially Created, and Individual Differences are examples of entrepreneurial behaviors that produce opportunity.

### **Action and Reaction**

Opportunity creation, according to Aldrich and Kenworthy (1999), is all about action, creativity, exploration, and playfulness. The contingent interactions between the behaviours, beliefs, and goals of entrepreneurs and partners within a given set of means might be claimed to be the source of opportunity (Sarvasathy, 2001). Entrepreneurs, according to Baker and Nelson (2005), try to generate opportunities iteratively (action and reaction). Entrepreneurs act and watch how markets respond to their actions in an iterative process, according to (Alvarez & Barney, 2007).

### **Socially Constructed/Created**

Weick (1979) coined the term socially constructed / created to describe the development of opportunities. Opportunities are created as a result of environmental and societal factors rather than by a single person's insights (Dimov, 2007). It is proposed that opportunities do not originate in a vacuum, but rather emerge as a result of co-evolution between entrepreneurs and social institutions (Sarason et al., 2006). Due to the diffusion of knowledge among diverse persons, opportunities can emerge through the intense interaction among concerned actors (Baker & Nelson, 2005). Entrepreneurs who consider both collective and self-interests, according to Ven et al (2007), are more likely to recognize, develop, and/or create chances. As a result, this study indicates that social factors play an essential part in the formation of opportunities.

### **Individual Differences**

Idiosyncratic behaviour and subjective judgment are used to create opportunities (Baker & Nelson, 2005; Klein, 2008). Existing logics were not a constraint to the entrepreneurs who created opportunity (Shah & Tripsas, 2007). Entrepreneurs who generate opportunities are

operating in a state of utter ignorance (McMullen & Shepherd, 2006);, and their starting positions are unconscious (Aldrich and Kenworthy, 1999). Individual differences are reflected in these characteristics, making them a crucial factor of opportunity creation. As a result, socially formed action and reaction, as well as individual variances, are crucial aspects of opportunity generation. It is hypothesized that, based on the above arguments:

*H6: The process of generating entrepreneurial opportunities has a favourable correlation with venture performance.*

### **Venture Performance**

The outcome construct that is used to determine the effects of opportunity creation in the Nigerian construction materials sector is venture performance. There is no single discipline, according to Stevenson, (1988), that provides the tool for managing an entrepreneurial enterprise. This framework tries to provide an all-encompassing model with corroborating data by focusing on opportunity creation rather than opportunity recognition from an entrepreneurial standpoint in a single model.

### **Methodology**

The study's target audience is made up of all Nigerian entrepreneurs who sell building materials. The sample firms were chosen at random from a list compiled by the National Bureau of Statistics and the Nigerian Small and Medium Enterprises Development Agency (Survey Report (MSMEs) In Nigeria, 2010). Owner managers in the construction materials industry responded to the survey. This study considers a variety of measures each variable is based on prior literature works of Demography, Personality Traits, Management abilities, and Effectuation in order to assist investigation of elements that impact the option of applying the Causation process. A 7-point Likert scale was used to evaluate questions across all dimensions. SmartPLS version 3.0 was used to analyse the data. The decision to use SmartPLS was based on the skewness and kurtosis tests, as well as the fact that the data for this study is not regularly distributed. Furthermore, there are two formative constructions in this framework (Entrepreneur Education and Entrepreneur Special Education). These parameters, according to Hair et al (2010), make PLS- SEM ideal for analysing the relationship in the model.

These states account for about 21% (4900) of all registered SMEs and are primarily retailers of building goods. These many geopolitical zones were chosen to provide a balanced depiction of Nigeria's religious, cultural, ethnic, and social diversity. During the first wave, 1,950 questionnaires were sent out, with 230 responses. Following up, a total of 130 replies were obtained. All constructs in the research model were subjected to an independent t-test, and the results revealed no significant differences between early and late respondents. These findings show that non-response bias had no effect on the survey data (see Table 1 in Appendix for the results of non-response bias).

It's crucial to look for collinearity between the variables. To analyse the problem of considerable multicollinearity, the variance inflation factor (VIF) was used. The standard VIF criterion is 10. Table 1 show that multicollinearity is not a problem because all VIF values in the model are less than the approved threshold of 3.3, as indicated by the authors (Diamantopoulos & Sigauw, 2006). The VIFs of the constructs in the model ranged from 1.000 to 1.434, according to the multicollinearity diagnostic.

Table 1



*Variance inflation factor*

Outer VIF Value	VIF
Effectuation	1.000
Entre Education	1.000
OPPCRAR	1.002
OPPCID	1.000
OPPCRSC	1.002
OPTM	1.434
PASS	1.307
PROAC	1.209
PERF	1.000
Ent SPC EDU	1.000
Magt. Skill	1.000

**Reliability and Validity**

The dependability of all formative items of sales volume, sales growth, profitability, entrepreneur education, and entrepreneur special education was tested using the spearman correlation coefficient. Table 2 shows the results, which show that all correlation coefficients were over 0.7, indicating that all items are credible. Cronbach alpha for all constructs: proactivity, passion, optimism, management skill social network, management skill using other people's resources, effectuation is over the threshold of 0.7, according to the reliability test (see Table 2 in Appendix).

Table 2

*Reliability of formative items*

Sales Volume	0.758**
Sales Growth	0.899**
Profitability	0.897**
Entre. Educ. 65	0.861**
Entre. Educ. 66	0.746**
Entre. Educ. 67	0.852**
Entre. Educ. 68	0.837**
Entre. Spec. Educ. 69	0.826**
Entre. Spec. Educ. 70	0.756**
Entre. Spec. Educ. 71	0.795**
Entre. Spec. Educ. 72	0.781**

**Findings**

Given the nature of building materials, it's hardly surprising that almost 98 percent of respondents are men. The respondents are of various ethnicities, with 43.1 percent belonging to the Ibo race, 23.9 percent to the Yoruba, 20.6 percent to the Hausa/Fulani, and 12.5 percent to other ethnic groups. 28.9% of the respondents are over the age of 46, and 25.8% are between the ages of 44 and 49. Over 19 percent have a National Diploma, whereas 10.8% have a Doctorate.

Structural equation modeling (PLS-SEM) is a technique for exploratory investigation. The goal of this research is to look into the components that drive the entrepreneurial effectuation process, how it influences opportunity creation, and how the entrepreneurial creation process

affects venture performance. To examine the strength of the association, the study's hypotheses were tested using PLS-SEM. SmartPLS 3.0 was used to run PLS-SEM models. The sample mean, standard deviation, t-statistics values, and p. value were all calculated using the SmartPLS bootstrapping program. The bootstrapping method yielded 5000 samples from 360 cases in this investigation. The t-statistics and p. value are presented in Table 3, and the PLS-Variance output is shown in Figure 1. The entrepreneurial opportunity creation process is the exogenous variable in Model One, whereas venture performance is the endogenous variable. The exogenous variable in Model Two is the entrepreneurial effectuation process, while the endogenous variable is entrepreneurial opportunity generation. Entrepreneurial effectuation process is the endogenous variable in Model Three, while entrepreneur age, entrepreneur special education, entrepreneur education, personality qualities, and management abilities are exogenous variables.

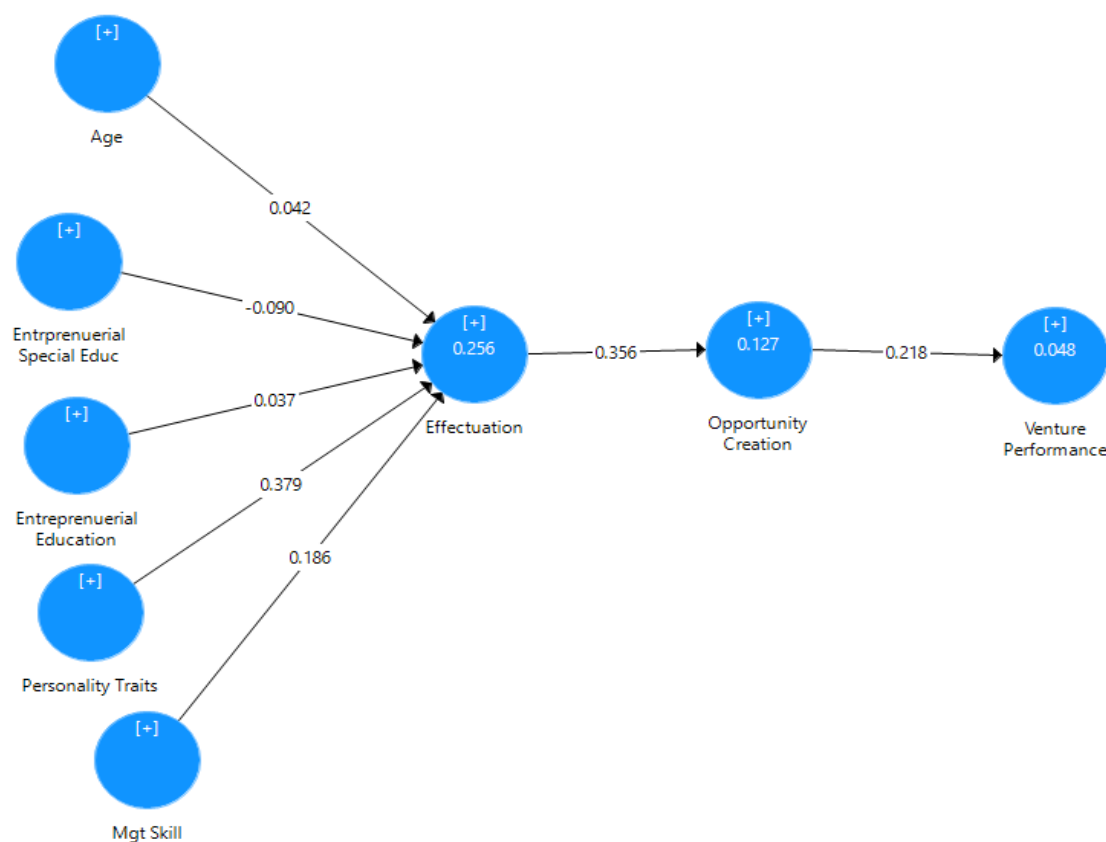


Figure 1. Research Framework

When the five antecedents of the entrepreneurial effectuation process, entrepreneurial age, entrepreneur special education, entrepreneur education, personality traits, and managerial abilities were combined together, a R Square of 0.256 increment in total variance was explained. Only entrepreneurial personality qualities and managerial abilities are important among these factors, as shown in the graph below. As a result, H3 and H4 have been approved, but H1, H2A, and H2B have not.

The results show that entrepreneurial personality traits have the highest coefficient (- 0.379) and are the most important variable for predicting the entrepreneurial effectuation process. The second most important antecedent of the entrepreneurial effectuation process was found to be entrepreneurial management skill (- 0.186). Entrepreneurial age (-0.042), entrepreneurial special education (= -0.090), and entrepreneurial education (= -0.037) are not

statistically significant predictors of effective process. In conclusion, only two factors (personality traits and management skills) play a significant role in predicting entrepreneurial success.

In the second model, the entrepreneurial effectuation process was regressed on the opportunity creation process, yielding a coefficient of (-0.356). When the entrepreneurial effectuation process was regressed on the opportunity creation process, there was a R Square of 0.127 increment in total variance. Because this number is substantial after boot strapping, H5 is recommended.

Entrepreneurial opportunity creation and venture performance, in the first model where opportunity creation was regressed on venture performance has a coefficient of ( $\beta$  - 0.218) and R square of 0.048. This value is significant after the boot strapping.

Table 3

*t-statistics and p. value.*

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Age->Effectuation	0.042	0.040	0.044	0.959	0.338
Effectuation- > Opp. Creation	0.356	0.358	0.071	4.984	0.000
Entrepreneurial Educ. - > Effectuation	0.037	0.036	0.053	0.708	0.479
Entrepreneurial Spec. Edu - > Effectuation	-0.090	-0.089	0.050	1.787	0.074
Mgt. Skills - > Effectuation	0.186	0.180	0.074	2.527	0.012
Opp. Creation -> Venture Performance	0.218	0.220	0.059	3.686	0.000
Personality Traits - > Effectuation	0.379	0.384	0.064	5.947	0.000

\*Significant at 0.05 level of significant

## Discussion

Entrepreneurial effectuation process antecedents: This study developed a model by combining 'great person' and psychological theories into a single construct of entrepreneurial personality traits. In addition, as antecedents of the entrepreneurial causation process, combining management and leadership theories into a single construct entrepreneurial management skill. The majority of entrepreneurial opportunity studies have focused on the factors that influence the recognition of opportunities. By looking into the antecedents of entrepreneurial effectuation processes, this study adds to the existing body of knowledge. The findings of this study confirmed that entrepreneur characteristics, such as personality traits and management skills, are important in the entrepreneurial process.

In addition, the study looked into the link between the entrepreneurial effectuation process and the creation of opportunities. According to the findings, the entrepreneurial effectuation process is a strong predictor of opportunity generation. Harms and Schiele (2012) are the only researchers to look at the antecedents of causality and effectuation in the creation of international new ventures. The current study differed from Harms and Schiele's research in

that it looked for antecedents of effectuation in small businesses (Retail business). Why are effectuation antecedences important? The neoclassical theory (Fisher, 2012; Chandler et al., 2011) is the most common approach to exploitation of entrepreneurial opportunity. This method is consistent with the causality process (Sarasvathy, 2001). Numerous academics have recently questioned the validity of the causation approach (Read et al., 2009). Scholars have proposed a model of entrepreneurship as a means-driven, risk-averse, and circular process involving effectuation and bricolage as a viable alternative (Sarasvathy, 2001; Baker & Nelson, 2005). As (Sarasvathy, 2001) points out, the causation approach 'is useful in a static, linear, and independent environment' (p. 251). In a 'dynamic, nonlinear, and ecological environment,' the causal approach may not be useful (p. 251). Exploring factors that will predict the process is a welcome academic exercise when considering the existence of static environments in the business world. Identifying elements that influence the effectuation process can have an impact on entrepreneur training, as Baron, (2007) argues. Entrepreneurs can be trained to recognize opportunity through suitable training. Entrepreneurial personality traits have a positive relationship with the effectuation process, according to the findings of this study. The effectiveness of an entrepreneur's management skills is positively related to the process of effectuation. As a result, training programs designed to teach entrepreneurs about the 'entrepreneurial process of effectuation' must take into account the personality traits and management skills of the entrepreneurs. These factors have a greater impact on entrepreneurs' ability to engage in the execution process than other factors.

### **Conclusion**

The study's initial contribution was to investigate the components that influence the process of opportunity exploitation effectuation. We investigate the effects of entrepreneur age, entrepreneur special education, entrepreneur education, personality traits, and managerial abilities on the effectuation process both theoretically and practically. Second, Sarasvathy's (2001) effectuation was extended to the retail trade. Third, we created a theoretical framework that combines numerous entrepreneurship theories and confirmed it using a quantitative analysis. The major findings of this study suggest that entrepreneur's personality qualities and managerial skills have a favourable impact on the entrepreneurial process of effectuation. The second most important antecedents of entrepreneurial effectuation process was found to be entrepreneurial management skills. It is also found that entrepreneurial effectuation process has a positive impact on entrepreneurial opportunity creation. Finally entrepreneurial creation process has an impact on venture performance.

One of the study's weaknesses is that the results are limited to Nigeria. Two, the sample exclusively includes retail businesses in the construction materials industry. Three, because this is a cross-sectional study, the causal effect of this study cannot be experimentally validated. Future research could be in different industries, and a longitudinal study with an in-depth interview could be investigated. Other characteristics not considered in this study should be explored in future research.

### **Appendix**

Table 1

*t-test for non-response bias.*

			t-test for Equality of Means			
			T	Df	Sig.	(2-
					tailed)	
PROAC1	Equal	variances	.266	358	.791	
	assumed					
PROAC2	Equal	variances not	.272	286.575	.786	
	assumed					
PROAC3	Equal	variances	.265	358	.791	
	assumed					
PROAC4	Equal	variances not	.271	285.937	.786	
	assumed					
PROAC5	Equal	variances	.252	358	.801	
	assumed					
PROAC6	Equal	variances not	.258	287.802	.797	
	assumed					
PROAC7	Equal	variances	1.233	358	.218	
	assumed					
PROAC8	Equal	variances not	1.243	274.224	.215	
	assumed					
PROAC9	Equal	variances	.036	358	.971	
	assumed					
PROAC10	Equal	variances not	.037	283.304	.971	
	assumed					
PROAC11	Equal	variances	-.680	358	.497	
	assumed					
PROAC12	Equal	variances not	-.712	304.696	.477	
	assumed					
PASS7	Equal	variances	-.623	358	.534	
	assumed					
PASS8	Equal	variances not	-.630	276.063	.529	
	assumed					
PASS9	Equal	variances	-.719	358	.472	
	assumed					
PASS10	Equal	variances not	-.751	303.148	.453	
	assumed					
PASS11	Equal	variances	.005	358	.996	
	assumed					
PASS12	Equal	variances not	.005	277.202	.996	
	assumed					
PASS13	Equal	variances	-.095	358	.925	
	assumed					
PASS14	Equal	variances not	-.096	280.910	.924	
	assumed					
OPTM11	Equal	variances	.010	358	.992	
	assumed					

		t-test for Equality of Means			
		T	Df	Sig. (2-tailed)	
OPTM12		Equal variances not assumed	.011	293.641	.991
		Equal variances assumed	-.005	358	.996
OPTM13		Equal variances not assumed	-.005	284.791	.996
		Equal variances assumed	-.445	358	.656
OPTM14		Equal variances not assumed	-.454	284.219	.650
		Equal variances assumed	-.828	358	.408
OPTM15		Equal variances not assumed	-.850	289.615	.396
		Equal variances assumed	-.214	358	.830
OPTM16		Equal variances not assumed	-.223	301.197	.824
		Equal variances assumed	-.610	358	.542
MAGTSNetwork17		Equal variances not assumed	-.632	295.863	.528
		Equal variances assumed	-.727	358	.468
MAGTSNetwork18		Equal variances not assumed	-.735	276.488	.463
		Equal variances assumed	-.656	358	.512
MAGTSNetwork19		Equal variances not assumed	-.656	267.437	.513
		Equal variances assumed	.212	358	.832
MAGTSNetwork20		Equal variances not assumed	.214	276.210	.830
		Equal variances assumed	-.159	358	.874
MAGT Other Peoples' 21		Equal variances not assumed	-.160	275.467	.873
		Equal variances assumed	-1.125	358	.261
MAGT Other Peoples' 22		Equal variances not assumed	-1.187	311.596	.236
		Equal variances assumed	-1.442	358	.150

			t-test for Equality of Means			
			T	Df	Sig.	(2-
					tailed)	
MAGT Peoples' 23	Other	Equal variances not assumed	-1.524	313.126	.129	
		Equal variances assumed	-.554	358	.580	
MAGT peoples'24	Other	Equal variances not assumed	-.573	295.571	.567	
		Equal variances assumed	-.442	358	.659	
EFFEXP32		Equal variances not assumed	-.452	286.068	.652	
		Equal variances assumed	1.506	358	.133	
EFFEXP33		Equal variances not assumed	1.569	301.711	.118	
		Equal variances assumed	2.804	358	.005	
EFFEXP34		Equal variances not assumed	3.006	324.349	.003	
		Equal variances assumed	1.047	358	.296	
EFFEXP35		Equal variances not assumed	1.102	310.092	.271	
		Equal variances assumed	1.842	358	.066	
EFFAL36		Equal variances not assumed	1.966	321.022	.050	
		Equal variances assumed	.493	358	.623	
EFFAL37		Equal variances not assumed	.519	310.647	.604	
		Equal variances assumed	-.306	358	.760	
EFFAL38		Equal variances not assumed	-.319	302.280	.750	
		Equal variances assumed	-1.113	358	.266	
EFFLEX39		Equal variances not assumed	-1.158	300.450	.248	
		Equal variances assumed	.372	358	.710	
EFFLEX40		Equal variances not assumed	.374	272.243	.709	
		Equal variances assumed	-.574	358	.566	

			t-test for Equality of Means		
			T	Df	Sig. (2-tailed)
EFFLEX41	Equal variances not assumed		-.582	279.466	.561
	Equal variances assumed		.033	358	.974
EFFLEX42	Equal variances not assumed		.033	277.301	.973
	Equal variances assumed		.020	358	.984
OPCRAR47	Equal variances not assumed		.020	285.445	.984
	Equal variances assumed		.097	272.478	.923
OPCRAR48	Equal variances not assumed		-.842	358	.400
	Equal variances assumed		-.883	306.462	.378
OPCRAR49	Equal variances not assumed		.435	358	.664
	Equal variances assumed		.434	265.805	.664
OPCRAR50	Equal variances not assumed		.196	358	.845
	Equal variances assumed		.197	269.192	.844
OPCRSC51	Equal variances not assumed		.384	358	.702
	Equal variances assumed		.384	268.252	.701
OPCRSC52	Equal variances not assumed		-2.605	358	.010
	Equal variances assumed		-2.866	342.035	.004
OPCRSC53	Equal variances not assumed		-10.404	358	.000
	Equal variances assumed		-11.930	357.519	.000
OPCRSC54	Equal variances not assumed		-9.220	358	.000
	Equal variances assumed		-10.504	356.443	.000
OPCRSC54	Equal variances not assumed		-9.168	358	.000
	Equal variances assumed		-9.797	321.836	.000



		t-test for Equality of Means			
		T	Df	Sig. (2-tailed)	
OPCRSC55	Equal variances assumed	-8.658	358	.000	
	Equal variances not assumed	-10.037	357.939	.000	
OPCRID56	Equal variances assumed	.403	358	.688	
	Equal variances not assumed	.410	283.346	.682	
OPCRID57	Equal variances assumed	-.508	358	.612	
	Equal variances not assumed	-.513	275.929	.608	
OPCRID58	Equal variances assumed	-.567	358	.571	
	Equal variances not assumed	-.577	282.856	.564	
OPCRID59	Equal variances assumed	.053	358	.958	
	Equal variances not assumed	.054	281.359	.957	
Entr. Educ. 65	Equal variances assumed	-.403	358	.687	
	Equal variances not assumed	-.405	270.984	.686	
Entr. Edu. 66	Equal variances assumed	1.432	358	.153	
	Equal variances not assumed	1.441	273.053	.151	
Entr. Edu. 67	Equal variances assumed	1.345	358	.180	
	Equal variances not assumed	1.313	248.960	.191	
Entr. Educ. 68	Equal variances assumed	-1.648	358	.100	
	Equal variances not assumed	-1.605	247.182	.110	
Entr. Spec. Educ 69	Equal variances assumed	-1.312	358	.190	
	Equal variances not assumed	-1.272	244.176	.205	
Entr. Spec. Educ 70	Equal variances assumed	-1.711	358	.088	
	Equal variances not assumed	-1.668	247.994	.097	

		t-test for Equality of Means		
		T	Df	Sig. (2-tailed)
Entr. Spec. Educ 71	Equal variances assumed	-.591	358	.555
	Equal variances not assumed	-.596	274.712	.552
Sales Volume	Equal variances assumed	-1.921	358	.056
	Equal variances not assumed	-1.931	272.263	.055
Sales Growth	Equal variances assumed	-.915	358	.361
	Equal variances not assumed	-.981	323.999	.327
Profitability	Equal variances assumed	-1.202	358	.230
	Equal variances not assumed	-1.220	280.163	.223

Table 2  
Cronbach alpha

Construct	Item	Mean	Std Dev.	Loadings	T-Statistics
Proactivity CR = 0.8869	PROAC002	0.1816	0.0168	0.6574	10.7427
	PROAC003	0.2307	0.0164	0.7822	14.1742
	PROAC004	0.2606	0.0139	0.8313	18.7963
	PROAC005	0.2766	0.0183	0.7891	14.9959
	PROAC006	0.3184	0.0228	0.839	13.8547
Passion CR = 0.8282	PASS007	0.232	0.0369	0.658	6.4233
	PASS008	0.4056	0.03	0.8358	13.4087
	PASS009	0.3878	0.0373	0.7607	10.3328
	PASS010	0.3052	0.0281	0.6959	10.9727
Optimism CR = 0.8687	OPTM011	0.2802	0.0229	0.7514	12.1011
	OPTM012	0.2217	0.018	0.6938	12.2494
	OPTM013	0.199	0.0172	0.6954	11.5278
	OPTM014	0.1917	0.0162	0.6973	11.8578
	OPTM015	0.2456	0.0144	0.756	17.1449
	OPTM016	0.2407	0.014	0.7498	17.1614
Social Network CR = 0.9206	SNFS017	0.2691	0.0179	0.8864	15.0227
	SNF018	0.3139	0.0161	0.8749	19.4584
	SNF019	0.3121	0.0174	0.8835	17.9948
	SNF020	0.2635	0.0229	0.8022	11.4769
Using other peoples resources CR = 0.9179	OPR021	0.39	0.0126	0.8872	30.7904
	OPR022	0.3952	0.0131	0.8911	30.183
	OPR023	0.3424	0.011	0.8856	31.0937
Causation CR= 0.9149	CAUS025	0.2051	0.0336	0.7984	5.9796
	CAUS026	0.1524	0.0317	0.6807	4.8613

	CAUS027	0.2151	0.0281	0.7898	7.5508
	CAUS028	0.1386	0.0374	0.7924	3.9786
	CAUS029	0.1896	0.0303	0.7583	6.1522
	CAUS030	0.1741	0.027	0.826	6.5552
	CAUS031	0.2093	0.0318	0.7969	6.3801
	EFFEXP032	0.3278	0.1402	0.9418	2.8977
Experimentation	EFFEXP033	0.1853	0.279	0.6731	0.3062
CR = 0.9157	EFFEXP034	0.2597	0.1125	0.8384	2.1997
	EFFEXP035	0.312	0.143	0.9453	2.6069
	EFFAL036	0.4232	0.0351	0.8341	12.089
Affordable loss	EFFAL037	0.3669	0.0282	0.7934	12.9884
CR = 0.8634	EFFAL038	0.4252	0.0309	0.8425	13.6547
	EFFLEX039	0.2421	0.1709	0.7228	1.5594
Flexibility	EFFLEX040	0.3853	0.16	0.865	2.6825
CR = 0.8386	EFFLEX041	0.2564	0.2945	0.6794	0.864
	EFFLEX042	0.3289	0.2387	0.7322	1.506
	AR048	0.3673	0.2357	0.9067	1.8257
Action and Reaction	AR049	0.4097	0.2353	0.9153	2.236
CR = 0.8716	AR050	0.2727	0.3717	0.6586	0.5239
	SC052	0.3018	0.2174	0.863	1.8607
Socially Created	SC053	0.2611	0.2233	0.7694	0.8072
CR = 0.8869	SC054	0.3083	0.2256	0.8607	1.954
	SC055	0.2447	0.2293	0.7579	0.764
	ID056	0.2969	0.0636	0.7813	4.7215
Individual Differences	ID057	0.2246	0.0692	0.7359	3.3303
CR = 0.872	ID058	0.2877	0.0621	0.8209	4.7619
	ID059	0.4358	0.0821	0.8348	5.1537

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