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# Evaluating the Effectiveness of Public Sector Interventions in Entrepreneurship Development in Nigeria

Michael Kalu Mba  
*Walden University*

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# Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Michael Kalu Mba

has been found to be complete and satisfactory in all respects,  
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the review committee have been made.

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2019

Abstract

Evaluating the Effectiveness of Public Sector Interventions in Entrepreneurship  
Development in Nigeria

by

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MS, University of Nigeria Nsukka, 2008

PGD, University of Nigeria Nsukka, 2002

BS, University of Nigeria Nsukka, 1998

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy & Administration

Walden University

May 2019

## Abstract

Entrepreneurship is significant to the production process for economic growth and development. The Nigerian government supports entrepreneurial development by providing business training for entrepreneurs across the country; however, the impact of such programs in current entrepreneurship in Nigeria has not been researched. This study was designed to examine the impact of the training on entrepreneurial outcomes such as profitability, revenue, and access to finance using the social construction framework and the theory of external control of organizations. Based on a quantitative quasi-experimental design involving a posttest comparison group, the impact of government support on randomly selected beneficiaries and nonbeneficiaries with the FCT was tested using an independent samples *t* test and binary logistic regression analysis. The results showed no significant relationship between business training and entrepreneurial outcomes. Additionally, it was not likely that an unemployed beneficiary would start a new business after the training, and trainees had difficulty accessing business loans. The social change implication of this study is that public sector institutions engaged in entrepreneurship development in Nigeria need pragmatic interventions that translate into positive entrepreneurial outcomes. They also need to focus on areas that cater for different categories of entrepreneurs such as age groups, educational level, business experience, and nature of the business to enhance effectiveness. Periodic assessment of the intervention programs is necessary using experimental and quasi-experimental studies. Therefore, this study can contribute to the data that public sector institutions can use to develop better interventions for entrepreneurs.

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## Dedication

I dedicate this work to my parents, Mr. Kalu Mba Kalu and Madam Esther Kalu Mba, who inculcated the spirit of being the best in whatever I do and getting to the finishing line of every endeavor. I'm grateful to God for keeping them alive to witness this achievement.

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## Chapter 1: Introduction to the Study

### **Introduction**

Entrepreneurs are a tool for economic development because, as economic theory explains, entrepreneurship is significant in the production process. Entrepreneurial development happens when the market system does not allocate scarce resources within the economy (Wojtowicz, 2013). In the pursuit of profitable opportunities, entrepreneurs spur the movement of economic resources from the traditional state to a more useful state (Naude, 2013). Some economic scholars, however, argue that increasing the number of entrepreneurs in the economy will not always guarantee higher levels of economic growth and development (Naudé, Amorós, & Cristi, 2013). The impact of entrepreneurial activities may depend on structural factors that help to propel the desired growth (Ács & Naudé, 2012; Uche, 2017). Therefore, the development of more entrepreneurs without necessary structural facilities in the economy will not spur growth and development.

In Nigeria, government at all levels engages in various approaches to stimulate growth by supporting entrepreneurship endeavors. There are many entrepreneurship development programs, mostly sponsored by the federal government and its agencies, states, and local governments. The premise for these programs is that they help create more jobs, reduce poverty, and create growth (Ihugba, Odi, & Njoku, 2013; Kiss, Danis, & Cavusgil, 2012). However, most of the beneficiaries of the interventions end up unemployed, as they are unable to start a business due to economic conditions. Thus, this study was conducted to assess the extent that public sector interventions in entrepreneurship development achieve the desired objectives and enhance economic

growth. The social change implication of this research is that through scientific evidence, policy makers in Nigeria can develop approaches to stimulate economic growth and development in Nigeria. Public sector institutions can also use information in this study to improve their intervention programs on entrepreneurship development in terms of creating jobs and reducing poverty.

This study has five chapters. This first chapter covers the background of the study, the purpose, the nature of the study, assumptions, scope and delimitations, limitations, and significance of the study. The literature review in Chapter 2 follows this introductory chapter and presents the theoretical framework and a review of existing studies. Chapter 3 includes the research methodology for the study including the research design, and Chapter 4 provides the data analysis and findings of the study. Chapter 5 provides the interpretation of the results, recommendations for future research, and the social change implications of the study.

### **Background of the Study**

Public sector involvement in entrepreneurship development in Nigeria has consistently grown since 1960. This trend resulted in the creation of a large number of public sector sponsored programs targeted at developing entrepreneurs in the country (Edoho, 2016; Omale & Chima, 2016). These programs receive financial outlay from both the central and subnational governments in Nigeria. Some of the agencies engaged in entrepreneurship development include the Central Bank of Nigeria, the Small and Medium Enterprises Development Agency of Nigeria, the Industrial Training Fund, and the National Directorate of Employment. There is also a myriad of other programs



initiated by state and local government agencies toward entrepreneurial development (Odia & Odia, 2013; Omale & Chima, 2016). Each agency provides one form of support or the other to existing and would-be entrepreneurs in different skill areas and across different locations in the country.

Following the adoption of the Structural Adjustment Program by the Nigerian government in 1986, the government has channeled many resources toward the development of entrepreneurial activities (Uche, 2017). These resources in recent times have been focused on providing business and skill training to existing and would-be entrepreneurs. However, there is a lack of literature on the effectiveness of public sector interventions in entrepreneurship development, and fewer studies in this area for African countries like Nigeria. Thus, this study was focused on linking entrepreneurship outcomes to public sector interventions that provide business training and enhance access to business finances.

Entrepreneurship interventions come in various forms, but the most popular are business training to enhance skills (Caldron, Cunha, & De Giorgi, 2013; De Mel, McKenzie, & Woodruff, 2014; McKenzie & Puerto, 2017). Interventions also come in the form of business support using financial grants or capital to entrepreneurs (De Mel et al., 2014; Giné & Mansuri, 2014). Additionally, business consulting can be seen as a treatment to establish the impact of human capital in enterprise performance (Bloom, Eifert, Mahajan, McKenzie, & Roberts, 2013; Bruhn, Karlan, & Schoar, 2013; Karlan, Knight, & Udry, 2015). However, most research indicating this has involved experimental approaches, but most government interventions, particularly in Nigeria,

occur without any form of experimentation. Therefore, it is important to understand whether these unexperimented public programs generate positive business outcomes.

Research has suggested that government entrepreneurship interventions need to be aware of what leads to effectiveness such as better focus on targets of the program. For example, Matricano (2016) argued that policy makers need to match specific entrepreneurship intervention programs with specific targets to enhance the effectiveness of public sector sponsored business training programs. Having specific targets for each program is important given the diverse intervention programs usually initiated at the different levels of government. Blackburn (2016) also argued that due to the complex and diverse nature of entrepreneurship, government interventions should be more sensitive to what works for them to be effective. However, Wojtowicz (2013) identified the lack of reliable data as a challenge to evaluating the effectiveness of public entrepreneurship programs, suggesting long-term observation for reliable and accurate impact assessments.

Despite the belief that supporting entrepreneurs will lead to growth and create jobs, not all entrepreneurial endeavors have this potential (Edoho, 2016). Public sector policies for entrepreneurship development should target moving people from necessity entrepreneurs to opportunity entrepreneurs, which can foster growth and economic development (Edoho, 2016). In regard to the efficacy of public policies on entrepreneurship development in Nigeria, most of the programs have not been effective in reaching out to the larger population of the expected beneficiaries and providing them continuous support (Edoho, 2015). Thus, this study was conducted to evaluate an

entrepreneurship program in Nigeria with the aim of providing information that could help advise policies that would enhance their effectiveness in Nigeria.

### **Problem Statement**

There is a lack of empirical evidence to support government interventions in promoting entrepreneurship development in Nigeria. There are also debates on the effectiveness of public interventions in entrepreneurial development (Arshed, Carter, & Mason, 2014; Blackburn, 2016; Hessels & Naude, 2017; Matricano, 2016; Wojtowicz, 2013). For example, Hessels and Naude (2017) suggested that entrepreneurship policies fail to actualize objectives because of the overestimation of their benefits while underestimating the negative impacts. Blackburn (2016) also argued that the effectiveness of public sector programs is influenced by factors that are beyond the control of policy makers. However, there is a lack of studies on the positive impact of public sector interventions (Wojtowicz, 2013), which may require more in-depth explorations (Matricano, 2016). Public administrators engaged in developing entrepreneurship programs need to justify their activities using scientific evidence, which reinforces the need for more attention to enterprising citizens.

Nigeria has witnessed an increase in the number of public institutions providing entrepreneurship training to the citizens (Brownson, 2015; Osemeke, 2012). However, the growth and level of entrepreneurial development remain slow while the contribution of local entrepreneurs to economic growth is low. Additionally, youth unemployment, poverty, restiveness, and societal vices keep trending up across the country (Odia & Odia, 2013; Premand, Brodmann, Almeida, Grun, & Barouni, 2012). The interventions in

entrepreneurship development should be designed to minimize these negative aspects and grow the economy. The continued increase in these negative aspects also supports the need for public organizations engaged in youth and entrepreneurship development to justify their activities through scientific evidence that measures the level of effectiveness of their programs, which can provide information to improve the programs in a developing country like in Nigeria.

Apart from providing business training, entrepreneurial studies have recognized finance (or capital) as a major success factor for entrepreneurship. For instance, the entrepreneurship development program initiated by the Central Bank of Nigeria recognized the relevance of finance to entrepreneurial activities. Thus, its major objective was to enhance the ability of Nigerian entrepreneurs to access capital from the formal financial market to start a new business or sustain an existing one. Most of the public sector entrepreneurship programs focus on job creation and poverty reduction as target objectives. Thus, the key objective of this study was to establish whether the provision of business training to Nigerian entrepreneurs increased their ability to access finance, start up, and grow their business.

### **Purpose of the Study**

The purpose of this quantitative quasi-experimental study was to assess the effectiveness of government interventions in entrepreneurship development through business training to Nigerian entrepreneurs to enhance their ability to access finances to start or grow their businesses. The focus on business training and access to finance was guided by previous studies that have focused on the impact of business training or

provision of finance on entrepreneurial outcomes (Grimm & Paffhausen, 2015). In Nigeria, there has been no research to evaluate the impact of the existing public sector programs on entrepreneurship performance.

Statistical techniques were applied to explore the experience of the beneficiaries of an entrepreneurship development program sponsored by a public institution to establish the link between business training and access to finance as an entrepreneurial outcome. Understanding this relationship can enable government agencies that provide entrepreneurship support in Nigeria to redesign their programs so they do not have trainees who cannot access the Nigerian financial markets.

### **Research Question(s) and Hypotheses**

The main research question for the study was, Does government support to entrepreneurs increase entrepreneurship performance in Nigeria? The three research questions required to answer the main research question were:

Research Question 1: Is there any significant relationship between business profitability and participation in a public sector sponsored business training?

$H_01$ : There is no statistically significant relationship between business profitability and public sector sponsored business training.

$H_{a1}$ : There is a statistically significant relationship between business profitability and public sector sponsored business training.

Research Question 2: Does participation in business training increase access to loans from formal financial markets?

$H_02$ : Participation in business training is not a predictor for access to loans.

*H<sub>a2</sub>*: Participation in business training is a predictor for access to loans.

Research Question 3: Does participation in business training enhance the ease to start up a business?

*H<sub>03</sub>*: Participation in business training does not enhance the ease to start up a business.

*H<sub>a3</sub>*: Participation in business training enhances the ease to start up a business.

### **Theoretical Framework for the Study**

Scholars have approached the study of public sector intervention in entrepreneurship development from different theoretical perspectives. Some of the theoretical lenses include the human capital theory (Martin, McNally, & Kay, 2013), the failure of the free-market economy theory (Wojtowicz, 2013), the interventionist theory (Osemeke, 2012), and the adult learning theory (Haider, Asad, & Aziz, 2015). However, I adopted the theoretical paradigms proposed by Schneider, Ingram, and DeLeon (2014) on the social construction framework and the theory on the external control of organization postulated by Pfeffer and Salancik (2016) in organizational theory. The two research theories allow for different research contexts depending on the direction of the study and the preference of the investigator.

Entrepreneurship is a source of economic growth and increases social development and employment as well as reduces poverty. Entrepreneurial development comes with some positive externalities (Hessels & Naude, 2017). It has become a useful tool for policy makers to promote economic advancement, innovation, and growth, which explains their attention to increasing the number of entrepreneurs. This policy perception

aligns with the social construction framework, which suggests that policy makers promote and encourage societally-beneficial target groups such as entrepreneurs at the expense of other groups that exhibit unacceptable traits. It was on this premise that I evaluated the support extended to entrepreneurs by the government with the aim of understanding the impact of such actions on their performance in business.

I also adopted the framework on the external control of organizations to establish the effectiveness of public organizations that support entrepreneurship development, given that the success of a program depends on the implementing institution. I used the feedback from the external stakeholders (the performance of trainees) to assess the effectiveness of the organization. Thus, the measure of effectiveness depends on the business outcome of the beneficiaries, which emanates from a comparative analysis of training participants with an untrained group.

### **Nature of the Study**

For a better understanding of the effectiveness of public sector interventions in entrepreneurship development in Nigeria, I adopted the quantitative quasi-experimental design using the posttest only comparison group design for the evaluation, trying to establish whether there was any relationship between the dependent variables and the independent variables. The dependent variables included access to loan, business profit, and business start-up, whereas the independent variables were business training, educational level, age, gender, marital status, nature of the business, business ownership type, business location, revenue, and business experience. I was also mindful of the need for counterfactual evidence (McDavid, Huse, & Hawthorn, 2013; Wojtowicz, 2013),

answering what would have happened if the program did not exist or if the participant did not take part in the training. Thus, for this purpose, I used a comparison group to account for the counterfactual evidence.

Because the program is already existing, I adopted the posttest only comparison group design (see Campbell & Stanley, 1963; Frankfort-Nachmias, Nachmias, & DeWaard, 2015; Langbein, 2012). This design requires a large sample for the researcher to make meaningful inferences because there is no pretest (Langbein, 2012; White, Sabarwal, & de Hoop, 2014). There is also a challenge in implementing the design and ensuring internal validity of the result with the random assignment of participants to the treatment and comparison groups (Elbers & Gunning, 2014). However, given that the target participants had concluded the training and the comparison group consisted of entrepreneurs who expressed interest but were not selected or failed to participate in the training, the study included participants from 2014 to August 2018. The list of participants and nonparticipants from 2014 provided enough population to obtain a large sample size, which addressed the internal validity challenges. The outcome of the analysis established whether the participants in the treatment group (beneficiaries) acquired the requisite skills that made them perform better than their peers who did not take part in the training. The essence of the analysis was to assist public institutions that engage in providing entrepreneurship support to Nigerians in improving programs for enhanced impact.

I adopted a customized set of survey instruments such as the list of beneficiaries and a questionnaire developed in line with the intervention objectives and focus of the



study. The survey frame comprised beneficiaries and nonbeneficiaries of the public program with the nonbeneficiaries being those that applied but did not participate in the training due to some constraints or criteria. The development of the questionnaire was based on similar evaluations in other countries that are available for public use. I administered questionnaires to a randomly selected set of participants drawn from the frame. Using the Statistical Package for Social Sciences (SPSS), I carried out some rigorous statistical tests and analysis to validate the impact of the training program in enhancing access to finance by the entrepreneurs.

### **Definitions**

*Entrepreneurship:* The concept of entrepreneurship has become a widely-studied phenomenon in business, economics, sociology, and psychology. It is a concept with many sides to it, so theoretical foundations vary from one discipline to the other. Entrepreneurship as a growing field of study is “obscured by the fragmentation caused by the different theoretical and conceptual prisms through which it has been viewed” (Anderson, Dodd, & Jack, 2012, p. 1). Apart from attempts to study entrepreneurship as a phenomenon from various perspectives depending on their discipline and background, most scholars have focused their attention on the issue of entrepreneurial capacity as a major success factor.

*Entrepreneurial capacity:* Its development comes in two major forms, education, and training (Valerio, Parton, & Robb, 2014).

*Entrepreneurial education:* Encompasses the integration of the basic principles of entrepreneurship into the educational curricula of higher educational institutions.

*Entrepreneurship training:* focuses on short-term capacity building programs targeted at existing and would-be entrepreneurs.

This distinction was important to this study as it provided focus and purpose to this research.

### **Assumptions**

One critical assumption about public sector interventions in entrepreneurship development, which prompted this research, is that the provision of business training enhances the ability of an entrepreneur to manage and run a business successfully. This assumption also involved the belief that having a handful of entrepreneurs can promote economic growth and development. These assumptions were made based on how, despite involvement of the Nigerian government targeted at developing viable entrepreneurs, the country still struggles economically.

### **Scope and Delimitations**

Entrepreneurship research has been focused on various aspects depending on the research problem. Most studies involve experimental designs to show the effect of elements on entrepreneurship outcomes such as training, provision of finance, and other forms of support. Public sector interventions in entrepreneurship development often do not rely on any form of experimentation before implementation (Dalziel, 2018), making it difficult to conduct a pretest and posttest analysis. Therefore, due to the nature of most public sector support programs for entrepreneurs in Nigeria, I relied on information collected from the beneficiaries (posttest). I gathered evidence using a comparison group to enhance the validity of the result. I focused only on entrepreneurship support programs

executed by a public institution, which ensured that the study results correspond to the research objectives. Thus, the study results will be useful in improving public interventions in Nigeria that target entrepreneurship development.

### **Limitations**

A major limitation of the study is that it does not provide a comparative evaluation of the effectiveness of public sector interventions in entrepreneurship development using the experience of private sector operators. Future studies should involve a comparative study that assesses their relative effectiveness to address this limitation. Such studies will justify the need for government institutions to channel their efforts in this regard through public–private partnerships to actualize their objectives.

### **Significance**

Studies conducted in various countries have established the importance of business training in enhancing entrepreneurial outcomes (Bulte, Lensink, Velzan, & Vu, 2016; McKenzie & Puerto, 2017; Valdivia, 2015). Other studies have also established the critical role of finance and capital in improving business performance (Giné & Mansuri, 2014; Karlan et al., 2015). However, no existing empirical work connects business training to entrepreneurial ability to access capital from financial institutions. This study can improve on existing literature by establishing the link between business training and securing finance as an entrepreneurial success factor. It can bridge the knowledge gap regarding why most participants in public sector sponsored business training programs have failed to start a new business or sustain existing ones. The outcome of the study can lead to social change by assisting public policy makers and service providers to develop

sustainable models that will integrate entrepreneurs with existing financial markets, products, and services.

### **Summary**

This chapter elucidates that the main object of this research through a discussion of existing knowledge on the importance of studying the effectiveness of government interventions in entrepreneurship development in Nigeria. An effective public sector program on entrepreneurship development should transit necessity entrepreneurs to opportunity entrepreneurs (Edoho, 2016). The discussion in this chapter shows that the existing gap in understanding the impact of government support for entrepreneurship lies in the availability of in-depth studies and analysis. Drawing from the experiences of trainees of a public sector program on entrepreneurship development may justify the social construction of policymakers about the benefits of developing entrepreneurs. Additionally, comparing the feedback from the beneficiaries with some counterfactual evidence from nonbeneficiaries can justify the effectiveness of public institutions in engaging in such activities.

The chapter also supported the relevance of the study given the increased number of public sector programs in Nigeria that target entrepreneurs. There is a limitation because private sector sponsored programs were not considered in the study. However, the strength of the study lies in its applicability in improving public sector programs on entrepreneurship development in Nigeria. The next chapter will include discussion of empirical studies on entrepreneurship development, business training, and provision of

finance to entrepreneurs. The chapter also includes the application of the theoretical constructs used in this study in evaluating the effectiveness of public policy.

## Chapter 2: Literature Review

### **Introduction**

The attempt by policymakers to boost activities in the economy by supporting entrepreneurial endeavors has received mixed reactions from analysts regarding their effectiveness (Blackburn, 2016; Matricano, 2016; Wojtowicz, 2013). One of the questions is whether intervention programs promote “opportunity-oriented” entrepreneurs who produce growth or maintain the status quo of producing necessity-driven entrepreneurs (Edoho, 2016). Thus, the purpose of this study was to explore the effectiveness of these intervention programs in enhancing the ability to start-up businesses, source finance (capital), and grow the business. I examined the hidden factors that impact the effectiveness of the government support to entrepreneurs through business training.

The current literature on entrepreneurship development relates to the effectiveness of public support for entrepreneurship development (Blackburn, 2016; Cancino, Bonilla, & Vergara, 2015; Edoho, 2016; Matricano, 2016; Wojtowicz, 2013). Other studies have presented the outcome of experiments that make use of business training as a treatment on selected participants (Bulte et al., 2016; McKenzie & Puerto, 2017; Valdivia, 2014). Studies have also been conducted to assess the impact of financial grants on entrepreneurs (Berge, Bjorvatn, & Tungodden, 2015; Gine & Mansuri, 2014). Most of the experimental studies have found an impact on targeted groups. However, due to the nonadoption of experimental designs in implementing government interventions, some analysts perceive such programs as a waste of public resources (Arshed et al., 2015;

Dalzeil, 2018). This perception stems from the argument that policy support for entrepreneurs does not always translate to economic growth and improved development. Therefore, I investigated the effectiveness of the Nigerian government's intervention in entrepreneurial development in engendering business start-up, access to finance, and business performance through entrepreneurship training.

The rest of this chapter presents the literature search strategy to access relevant materials as well as the theoretical foundation for the study. This chapter also provides a review of existing literature focusing on recent research that explored the effectiveness of public sector activities in entrepreneurship development including recent works on the impact of business training on entrepreneurial outcomes.

### **Literature Search Strategy**

The literature search for this research involved databases through Walden University Library services, the Central Bank of Nigeria Library Online Catalogue, and Google Scholar. The databases accessed include SAGE publications and Encyclopedia, ScienceDirect, JSTOR, Springer, Political Science Complete, ProQuest Central, ProQuest Dissertations & Theses Global, ProQuest Science Journals, EBSCO ebooks, and Emerald Insight. In searching for articles and related studies, various phrases were used to search the databases and search engines: *entrepreneurship policy*, *entrepreneurship development*, and *impact of business training*, *effectiveness of entrepreneurship training*, *constraints to entrepreneurship development*, *the impact of public sector intervention on entrepreneurial outcomes*, *intervention theory*, *organizational effectiveness*, *evaluating entrepreneurship training programs*, *social construction theory*, *theory of change*, and

*evaluation theory*. The literature search was focused on articles that were 5 years old or fewer starting from the year 2012 to 2016 and then later 2013 to 2017. The literature included peer-reviewed journal articles, working papers, e-books, study reports, conference papers, dissertations, and discussion papers.

### **Theoretical Foundation**

I used two theoretical paradigms, the social construction framework and the external control of the organization, to explore the effectiveness of public sector interventions in developing viable entrepreneurs in Nigeria. The blending of the two theories was necessary to have a logical model that depicts the flow of activities in promoting entrepreneurship development in an economy.

### **The Social Construction of Entrepreneurs**

The theory of social construction was first introduced in 1993 by Schneider and Ingram as a tool to help understand the reasons for the success or failure of public policies (Pierce et al., 2014). Park and Wilding (2013) posit that the theory of social construction of a target population helps uncover the government's justification for designing policies in a certain way toward a group. Positive social construction of groups puts out such words like "worthy, contributing to society, good, smart, hardworking, loyal, disciplined, generous, caring about others, respectful, and creative" (Schneider, Ingram, & Deleon, 2014, p. 110). Thus, the theory informs why some groups in the society receive benefits from the government while others suffer punitive measures because of public policy.



The theory separates target populations into advantaged, contenders, dependents, and deviants. This separation is derived from eight major assumptions that have three major categorizations: individual, power, and the political environment (Pierce et al., 2014). It is these three categories that interact to form two core propositions of the theory: the target population and the feed-forward effects of policy. This study was focused on the target population proposition, which suits entrepreneurs as a positively constructed group by the government. The concern of the target population component of the theory sends policy signals to target groups on how the government will treat them. The type and extent of treatment received by a group depend on its political power and their positive or negative social construction. A group's social construction depends on their classification either as deserving or undeserving of favorable government policy. Thus, for the group to be advantaged, it must possess high political power and be positively constructed (Pierce et al., 2014). The policy design process classifies each group accordingly.

Looking further at target population classifications, the contenders are target groups with relatively high political power but are negatively constructed, whereas the dependents have low political power but are positively constructed. The deviants are those with low political power and are negatively constructed, who receive no benefits from policy and instead have burdens. The advantaged receive reasonable benefits than other groups with little or no burden, whereas the contenders receive minor benefits but few visible burdens. The dependents with their low political power and positive construction receive "rhetorical and underfunded benefits" but with little or no burdens

(Pierce et al., 2014). Examples of the advantaged would be employers, investors, and owners, middle class, employed, seniors, and homeowners. Contenders include the insurance firms, lobbyists, and wealthy individuals, and dependents are students, children, disabled, and low-income households. Deviants include criminals, drug users, and illegal immigrants (Drew, 2013). Thus, policy designs emanate from the social construction of a target group and their level of political power.

The social construction theory has appeared in various empirical and nonempirical research studies. For example, Pierce et al. (2014) provide a detailed review of its application in 111 research studies conducted over a 20-year period (1993–2013), focusing on diverse areas of federal and state policies including criminal justice, education, environment, health, housing, immigration, and social welfare. The theory has been applied using quantitative, qualitative (empirical and nonempirical), and mixed method designs, and it was mostly used jointly with other theories. For instance, Park and Wilding (2013) used the theory to identify factors that influenced government policies toward social enterprise in the United Kingdom and South Korea, finding that the social enterprise policy of the two countries was influenced by direct and indirect factors as well as policy design intentions. Additionally, Drew (2013) applied the social construction framework to understand the basis of the U.S. government interventions to increase homeownership to low-income households, finding that a failure of low-income homeownership policy was exacerbated by the disproportionate allocation of benefits to private mortgage operators and burdens on low-income households, with the relatively low skills in financial management on the part of the low-income households.

### **The External Control of Organizations: Measuring Effectiveness**

The theory of external control of organizations is derived from the work of Pfeffer and Salancik first published in 1978 and subsequently in 2003, 2006, and 2016. An important element of the theory is that the survival of an organization depends on the power of its external stakeholders. An organization's survival depends on its effectiveness to satisfy the demands of the interest groups (Pfeffer & Salancik, 2006). Organizational effectiveness is an assessment of an organization's output and activities by the various stakeholder groups (Pfeffer & Salancik, 2003). This assessment uses an "external standard" that rates how well the organization's output meets the demand of the stakeholders; however, due to the conflicting interest among the stakeholders, the definition of effectiveness is within the confines of each group's assessment (Pfeffer & Salancik, 2016). Thus, the effectiveness of an organization comes from an evaluation of its activities by the key stakeholders, which will be determined by how well the organization satisfies their needs and purpose of encountering the organization.

### **The Evaluation Model**

This study built on the two frameworks to evaluate the effectiveness of public sector interventions in entrepreneurship development in Nigeria. The two theoretical paradigms were the social construction of entrepreneurs as the advantaged target group and the external control of organizations, which provided the theoretical lens for measuring the effectiveness of a public institution in achieving program objectives. The evaluation model as depicted in Figure 1 shows the flow of activities in implementing public sector interventions in entrepreneurship development. The process starts with the

policy design stage to policy implementation and ends with policy evaluation using a feedback loop from external stakeholders.

The model assumes that the policymaker has a positive construct of entrepreneurs as positive economic agents that enhance growth and meaningful development. This conceptualization informs the selection of the target population made up of job seekers, aspiring entrepreneurs, and current entrepreneurs. The inclusion of existing entrepreneurs in a developing country like Nigeria stems from the fact that most of the existing entrepreneurs need one form of assistance or the other due to market imperfections.

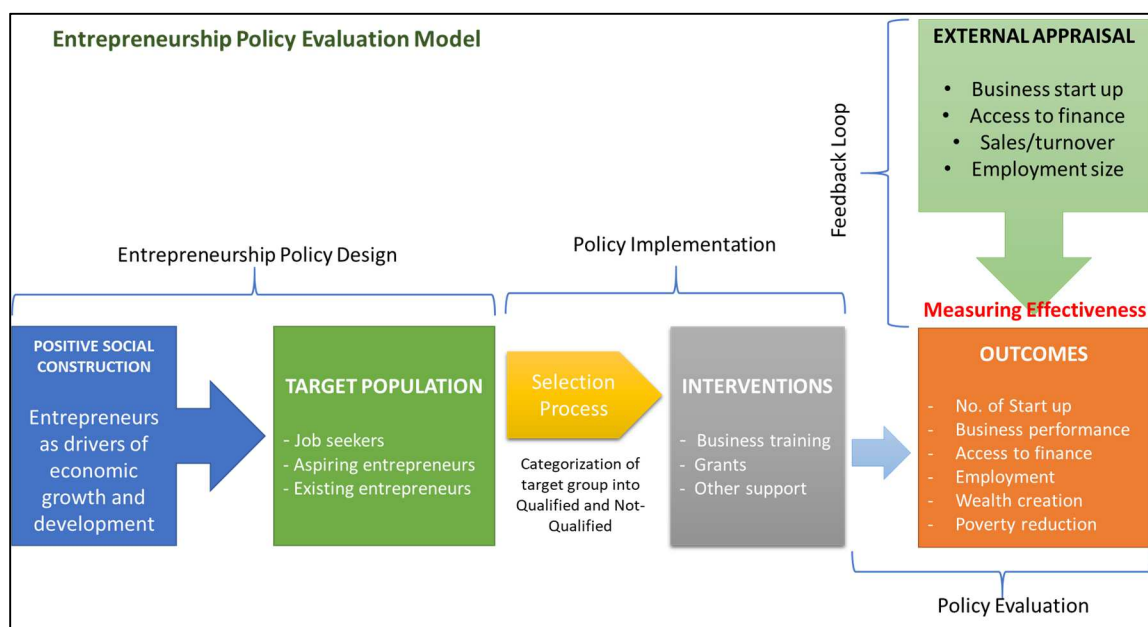


Figure 1. Evaluation model. Source: Developed by me.

Most government interventions in entrepreneurship development go through a selection process to ensure that the program targets those who are ready to start a business and sometimes to operate within the limits of the available resources. Thus, the interventions come in the form of business training, provision business support grants,

and other types of support. The objective of public sector interventions in entrepreneurship development is to increase the number of start-ups, improve business performance, enhance access to credit, create jobs, increase wealth, and reduce poverty. This model proposes an evaluative framework using the external stakeholders, in this case, beneficiaries and nonbeneficiaries, to assess the effectiveness of the public institutions in achieving the expected outcomes.

### **Review of Empirical Literature**

The literature review for this study focused on three broad areas that were relevant to the research. These studies include empirical works on the effectiveness of public sector interventions on entrepreneurship development, access to finance and business start-up as entrepreneurial outcomes, and the impact of business training and human capital development for entrepreneurs as enhancing factors to business performance.

### **Public Sector Interventions in Entrepreneurship Development**

There is sparse literature on the effectiveness of government support programs and policies for entrepreneurship development. Despite the wide acceptance that entrepreneurship is a key element in the production process, many scholars still express reservations on the involvement of government and its agencies in the entrepreneurship development (Arshed et al., 2015; Blackburn, 2016; Matricano, 2016). The concept of entrepreneurial benefits to the economy derives from the Schumpeterian ideology that entrepreneurs spur growth through their capitalist activities (Cancino et al., 2015). This argument proposes that entrepreneurship activities stimulate production, job creation, and

innovation, which speeds up the rate of economic development in an economy. Thus, public policy makers target these externalities by developing policies and programs to enhance entrepreneurial outcomes.

Cancino et al. (2015) analyzed the impact of a public-sector program, the Seed Capital Program, on businesses in Chile. The study employed a combination of the propensity score matching with the difference-in-difference method to conduct the evaluation using 682 firms divided into two groups with 378 participants in the treatment group and 304 in the control group. One of the relevant findings from their study was that participating in the public program (financial subsidy) had no impact on the likelihood of the beneficiary obtaining finance for their business after the program. However, their findings indicated that the program had a positive impact on the number of employees, while its impact on business sales was mixed depending on the model used. It is, therefore, relevant to understand whether the public program was effective in inducing the necessary skills that will enable the beneficiaries to overcome the major challenges of most entrepreneurial endeavors one of which is the access to finance to run the business.

In another study, Matricano (2016) used data derived from the Global Entrepreneurship Monitor 2008 which has a sample of 3,000 respondents to analyze the effectiveness of public sector sponsored entrepreneurship training program in Italy. The study adopted the logistic regression model to evaluate the impact of the entrepreneurship training on the participants' expectation to start-up business after receiving the training. The findings from the study indicated that the impact varies by age and gender in enhancing the start-up expectation of the entrepreneurs, and concluded that it is more

effective for a policymaker to design target-specific entrepreneurship development programs instead of a “homogeneous whole.” It is important to note that sector-specific entrepreneurship development programs exist in most developing countries. However, they don’t target any age-group or gender. Arshed et al. (2015) argued that lack of proper policy formulation engenders ineffectiveness. However, properly designed public policies that provide financial aid to entrepreneurs to kick-start their businesses remain the most effective, as it enables them to survive the most trying stage of the entrepreneurial process (Wojtowicz, 2013).

#### **Access to Finance and Business Start-up as Entrepreneurial Outcomes**

Access to finance remains a major constraint to entrepreneurial start-up (Evans, 2016). Starting up an entrepreneurial venture requires capital, and sustaining the business entails constant access to finance to operate the business on a day-to-day basis. Lack of access to credit limits the ability of firms to grow (Banerjee, Breza, Duflo, & Kinnan, 2017), and this limitation is more challenging for small enterprises and business start-ups (Diallo & Goyette, 2016). While microfinance remains a source of support for small firms and start-ups (Diallo & Goyette, 2016; Manaf, 2017), access to the credit markets remain highly challenging to entrepreneurs, particularly, with the profit-oriented attitude of banks.

Furthermore, the situation is more challenging for Nigerian entrepreneurs due to the high cost of securing bank loans in the country (Ogujiuba, Jumare, & Stiegler, 2013). Due to the intricacies of getting finance to run businesses, Evans (2016) advocated for entrepreneurship policies that smoothen the process of getting access to the credit

markets. The ability to access the credit markets largely depends on the skills of the entrepreneur to maneuver the constraints existing in the markets such as the quantity constraint, transaction-cost constraint, and risk constraint (Seck, 2017). Thus, the measure of effective government intervention in entrepreneurship development will depend on the ability of the beneficiaries to confront these constraints and obtain credit to start-up or operate their businesses.

One of the major goals of entrepreneurship policies is to stimulate and promote the implementation of entrepreneurial ideas. Thus, the ability of public policy to develop an ecosystem that enables those with ideas to put them to productive use is a measure of success and effectiveness of policy (Edoho, 2016). Shahriar, Schwarz, and Newman (2016) argue that irrespective of the motivation for a business start-up, the most constraining factor for such occupational choice is the ability to secure capital and acquire the relevant skills for success. Barrows (2017) posits that “capital market frictions prohibit start-up growth in many parts of the world” (p.1). Barrows found that most entrepreneurship programs were effective in enhancing chances for start-ups in the 116 countries covered in the study. For instance, in a study to analyze the impact public policy in removing constraints to entrepreneurial start-up in Nigeria, McKenzie (2017) found that the introduction of financial grants through business competition increased the number of start-ups. The study alludes that the grant enabled the beneficiaries to obtain more capital and expand their employment level. While the provision of a financial grant to entrepreneurs occurs in some public-sector interventions, most of such programs provide business training to entrepreneurs or sometimes a combination of both. An area



that is lacking in empirical evidence is whether these interventions engender start-ups and help beneficiaries to secure capital on their own with or without take-off grants.

### **Business Training and Entrepreneurship Development**

Most of the interventions targeted at entrepreneurs in Nigeria comes in the form of capacity building through business training. Both public and non-profit institutions engaged in entrepreneurship development focus on business training as an intervention mechanism. Thus, most existing studies on entrepreneurship development had explored the effect of these business training in promoting various aspects of entrepreneurial outcomes and business performance.

Most entrepreneurship studies use field experiments and randomized control trials to establish the impact of business training on entrepreneurship outcomes (Berge et al., 2015; Bruhn et al., 2013; Bulte et al., 2016; De Mel et al., 2014; Karlan et al., 2015; McKenzie & Puerto, 2017). Others adopted quasi-experimental designs or econometric approaches.

Based on an experiment carried out in Kenya, McKenzie and Puerto (2017) found that the use of business training impacted positively on the sales, profits, and the well-being of the owners of small-scale businesses as well as the level of customer service and the introduction of new products. Bulte et al. (2016) found that it impacts positively on business knowledge, practices, and outcomes in northern Vietnam while generating a huge gap between entry and exit decisions. Valdivia (2015) using a study of female micro-entrepreneurs in Peru posits that providing business training with additional

technical support shortens the time to increase sales from one year to between 4 to 7 months.

In other recent studies, Swain and Varghese (2014) found that business training increases access to loans, assets of participants, and income accumulation in India. De Mel et al. (2014) in a study involving women in urban Sri Lanka discovered that the training impacted on the ease of entry (start-up) and their business practices, but did not affect business profits, sales, or capital stock. However, the participants that received both training and cash grant experienced increased business profitability in the first eight months. Caldron et al. (2013) explored the hypothesis that poor performance of businesses is as a result of poor business skills. Using a 48-hour business training offered to female entrepreneurs in rural Mexico, they found that beneficiaries recorded higher profits and revenues, and increased number of customers. The participants were also more amenable to the use of accounting techniques in managing their businesses. In Mexico, Bruhn et al. (2013) experimented on the vital role of managerial capital in propelling business performance. Their findings indicated an improvement in the level of business performance among the beneficiary-firms as they recorded increased return-on-assets and total factor productivity. Also, there was an increase in the entrepreneurial spirit of the business owners. At a macro level, the study found that there was an increase in the number of jobs after the program.

Bloom et al. (2013) tested the effect of management on business performance by providing free business consulting on modern management techniques to selected firms in India. The study found that the benefiting firms recorded an increase in average

productivity arising from improved product quality, efficiency, and reduced inventory. Similarly, other studies indicate that using a combination of grant and business training increases entrepreneurial outcomes such as the experiments carried out by Karlan et al. (2015) in urban Ghana, Giné and Mansuri (2014) in rural Pakistan, Berge et al. (2015) in Tanzania. Also, Martínez, Puentes, and Ruiz-Tagle (2013) evaluated the impact of business training and asset transfers and found that the program impacts more the number of self-employed and the level of income of the entrepreneurs.

In Nigeria, most of the studies carried out on entrepreneurship research utilized the survey method such as Garba, Mansor, and Djafar (2013) which used survey approach and econometric analysis. Also, Ogundele, Akingbade, and Akinlabi (2012) used survey data collected from 250 entrepreneurs to evaluate the impact of business training on youth empowerment and welfare services in Lagos State, Nigeria. The result of their analysis shows that entrepreneurship training positively impacts on youth empowerment and improvement in welfare services.

### **Summary and Conclusions**

The literature on entrepreneurship research is replete with numerous studies adopting different approaches and designs to evaluate the impact of entrepreneurship programs across the world. As posited by Wojtowicz (2013) and Matricano (2016), there is a need for more in-depth studies to understand the impact of public sector interventions in entrepreneurship development on the macroeconomy gave the widely acclaimed impact on economic growth and development. Researchers that conducted evaluative studies on entrepreneurship development have done so using various theoretical prisms

and conceptual frameworks, however, none was found to have considered the social construction theory nor to combine it with the theory of organizational effectiveness as contained in the external control of organizations framework. Thus, this study provides a new paradigm in entrepreneurship literature and program evaluation. The evaluation model developed from the combination of the social construction framework, and the theory of organizational effectiveness would serve as an innovative model for future research in this regard for other countries or similar programs in Nigeria. Subsequently, this model will form the basis for the development of the study design and methodology in the next chapter of this study.

## Chapter 3: Research Method

### **Introduction**

The purpose of this quantitative quasi-experimental study was to evaluate the effectiveness of public sector interventions in providing business training to Nigerian entrepreneurs to enhance their ability to access financing to start or grow their businesses. This chapter provides the details of the research design and justifications for its adoption. The chapter also includes the research methodology, study population, sampling design and procedures, selection of participants, and data collection procedures. The internal and external validity issues, as well as the ethical considerations relevant to this research, are also in this chapter.

### **Research Design and Rationale**

I evaluated the effectiveness of public sector interventions in entrepreneurship development in Nigeria by exploring the relationship between the output of the interventions and entrepreneurial outcomes. The dependent variables for the study included access to finance, business start-up, employment generation, and business profitability, and the independent variables consist of the status of business training, educational level, age, gender, and business experience. The measurement of the dependent and independent variables was on the categorical or continuous scale as applicable.

To examine the variables in the study, I used a posttest only comparison group design, which is a form of quasi-experimental design used in analyzing the impact of an intervention. Unlike most experimental designs, which allow the researcher to manipulate

the independent variables, quasi-experimental designs involve relying on “naturally occurring independent variables” (O’Sullivan, Rassel, Berner, & Taliaferro, 2017. p. 59). Quasi-experiments do not allow the researcher to manipulate or change the independent variables during the study. The posttest only comparison group design is a quasi-experimental design that compares the outcomes from a program with the outcomes from another entity that did not participate in the program (Langbein, 2012). The posttest only comparison group is most suitable for studies where a pretest is not feasible (Campbell & Stanley, 1963), providing evidence through a comparison group to compare with the program group.

One of the constraining factors in the use of the posttest only comparison group design is the selection of a comparison group. In most public programs, it is hard to obtain precise matches for the program group; however, researchers can exploit various procedures to find a good match for the program group such as using a waiting list, the lottery method, or the cut-off point approach (Langbein, 2012). Though the experimental design may seem suitable for evaluating the effectiveness of government interventions in developing entrepreneurs, it may not align with policies, especially in developing countries (Dalziel, 2018). Public administrators often do not have the capacity required for experimental studies, so they rely more on quasi-experiments. Quasi-experimental designs are less expensive to implement because they exclude the cost of implementing a pretest by relying on the posttest method (O’Sullivan et al., 2017). Thus, the posttest only comparison group design was suitable for this study given that the interest was in evaluating a government intervention program.

In the Nigerian public sector, most evaluation studies use the posttest only without a comparison group, which does not provide evidence about what would have happened to the participants without the government intervention. Based on the literature review, I found no existing evaluative studies conducted on any public sector intervention program on entrepreneurship in Nigeria that provided counterfactual evidence. Thus, this study design can bridge this gap and provide the lead for forthcoming research on public policy in Nigeria and other developing countries, especially in entrepreneurship development.

Providing counterfactual evidence about the impact of government intervention programs in entrepreneurship development in Nigeria has become necessary because of the increasing number of public sector agencies that embark on such activities. Some scholars have found other factors apart from business training that are important in determining the success of entrepreneurial endeavor in Nigeria: education, access to finance, government bureaucracy (Agbo, Iroh, & Ihemezie, 2015); gender and household size (Akpan, Patrick, Udoka, Offiong, & Okon, 2013); and high taxation, inadequate power supply, and other structural deficiencies (Nwibo & Okorie, 2013). However, the prominence given to business training and government support calls for further investigation to ascertain the extent to which such public interventions have succeeded in enhancing productive entrepreneurial endeavors.

## **Methodology**

The methodology section for this quantitative study provides the population of interest, data collection, the instruments for data collection, threats to validity, and the ethical issues considered in the study.

### **Population**

I evaluated a public sector sponsored intervention in entrepreneurship development in Nigeria. There were many interventions in entrepreneurship development in Nigeria that was sponsored by the federal, state, and local governments through various agencies. In selecting an intervention program for the study, I considered various factors including the number of participants who have benefited from the program, the availability of preliminary data such as participants' contact information, and most importantly the availability of a comparison group that would provide the counterfactual evidence.

I selected the entrepreneurship development intervention provided by a government agency operating in the Federal Capital Territory (FCT) for this evaluation. The population for the study included individuals who benefited from the intervention program and those who indicated interest to participate but were not selected based on criteria or were unable to participate in the training due to personal reasons. Both the federal and state governments spend substantial resources to set up agencies to support entrepreneurship development in the country. Most of these agencies provide business support and skill acquisition to new and existing entrepreneurs residing in various parts of the country. Several of such public institutions operate within the FCT to serve the



growing population of the city. Some of these public institutions include the Small and Medium Enterprises Development Agency, Industrial Training Fund, National Board for Technical Education, Central Bank of Nigeria, Abuja Enterprise Agency, National Youth Service Corps, and the National Directorate of Employment as well as some that are based on public–private partnerships. For the ease of implementation, this study included participants trained by one of these agencies operating in the FCT for the data collection.

These government intervention programs in most instances require participants to indicate their interest by applying for each program based on advertisements. The agencies use radio/television announcements, newspaper adverts, posters, and handbills to advertise their programs. Currently, most of the public institutions operating within the FCT have supported many entrepreneurs through its intervention programs. Most of the participants are business owners and prospective entrepreneurs operating or living within the FCT and its environment. Each government agency states in the advertisements the criteria for selecting participants for each intervention. Thus, the study population for this study comprised the selected and nonselected applicants to the partnering institution's programs within the last 5 years.

### **Sampling and Sampling Procedures**

Sampling is an important element of public policy studies. Given the constraint of cost and the need to generate accurate and reliable results, researchers of public policy cannot always study the entire population of interest. Thus, a sample is taken from the population of interest. Additionally, based on the need for replicability of public policy studies, sampling from the population increases the external validity of the study, which

enhances the generalizability of the findings (O'Sullivan et al., 2017). A good sample provides an accurate representation of the attributes of the population (Frankfort-Nachmias et al., 2015). Each statistic generated from the sample is as good as the targeted population parameter for the participants.

The population for this study was within the confine of participants trained by the partnering agency on business and other entrepreneurship skills. The sampling strategy was focused on participants who benefited from the training and those who were yet to benefit (the comparison group). Given the natural distinction between the two groups required for the study, the sampling technique followed the stratified simple random sampling method. Stratified simple random sampling is a probability sampling design that divides the population of interest into strata or groups and is a good technique to use when comparing groups (O'Sullivan et al., 2017). The stratification can come from the natural distinction of the group like this study, which includes training participants and nonparticipants. The strata can also include the year of receiving the training. The mode of stratification depends on the objective of the study and the type of analysis intended for the study. This study maintained the natural structure of the participants as the strata, with one stratum representing the group of participants who received training and the other representing those who did participate in the training.

The strata provided the basis for the simple random sampling technique to select participants from each stratum. The technique requires that each participant in the population “has a known, equal, nonzero probability of being included in the sample” (O'Sullivan et al., 2017, p. 137). The process entails that the selection of one participant

does not preclude the selection of other participants in the group. Apart from using various methods such as the lottery method and table of random numbers, the standard practice entails software programs to generate the numbers to select the sample units (Frankfort-Nachmias et al., 2015). I used the IBM SPSS software to select participants for each group randomly.

I submitted a formal application to the head of the partnering agency to request for the list of trained and untrained participants. I derived untrained group from the list of participants who applied for the training but were not selected or unable to attend. Some of the applicants in the control group were not selected due to the inability of the agency to accommodate all applicants, whereas others were individuals who indicated interest to participate in the training but could not attend due to personal reasons. I recognized such persons as viable and prospective entrepreneurs to serve as a comparison group for the evaluation.

**Sample size determination.** One important component of the sampling procedure is the determination of an optimum sample size for the study. The researcher must consider and balance the need for statistical accuracy of the results within the confines of available financial and other resources (O'Sullivan et al., 2017). One of the major inputs in determining the sample size is the standard error of the estimates from the sample (Frankfort-Nachmias et al., 2015). The standard error measures the extent to which the sample estimates reflect the true value of the population parameters. Apart from accurately mimicking the population parameters, the level of confidence desired by the researcher and the population size are important in determining sample size (O'Sullivan

et al., 2017). However, these values remain unknown to the researcher until after the sample selection and the sample estimates computed. Thus, the use of a scientific means to derive the sample size is important.

The effect size, power of the test, and statistical significance level (alpha level) are the three basic elements in determining the sample size for evaluating intervention programs such as entrepreneurship training (Djimeu & Houndolo, 2016). The sample size for an evaluation can be too small or too large. Small sample sizes reduce the chance of detecting the impact of an intervention, whereas large samples unnecessarily increase the cost of conducting the evaluation. Large sample sizes can also produce overvalue effects of an intervention (Fritz, Morris, & Richler, 2012). The use of power calculation methods to estimate the sample size for intervention studies has become prevalent in social science research.

The estimation of these three elements used for determining the sample size is the responsibility of the researcher before embarking on the study (Djimeu & Houndolo, 2016). Different approaches exist to estimate the sample size given the expected effect size, statistical power, and significance level. As a rule of the thumb, the minimum value for statistical power and significance level are .80 and .05, respectively (Djimeu & Houndolo, 2016; Field, 2013). The power of the test measures the probability of not rejecting the null hypothesis that the intervention is not effective when it is true, whereas the significance level (alpha) is the probability of not rejecting the research hypothesis that the intervention is effective when it is not. The effect size has become a prominent parameter recommended by the American Psychological Association as an improvement

to the usual null hypothesis significance testing, which does not provide sufficient information about the size and importance of the effect (Field, 2013). Some of the common measures of effect size are Cohen's  $d$ , Pearson's correlation coefficient  $r$ , and the odds ratio (Field, 2013). However, the researcher can leverage on the effect size derived from previous studies or pilot study to compute the sample size (Fritz et al., 2012; Prajapati, Dunne, & Armstrong, 2010).

The determination of sample size using statistical power, effect size, and significance level involves rigorous computations. Therefore, there are computer programs for such calculations such as the G\*Power, pwr package in R, nQuery Adviser, Power & Precision, and PASS (Power Analysis and Sample Size) (Field, 2013). I used the G\*Power software as a guide to determine the sample size using the statistical power, effect size, and significance level. Based on the rule of thumb in social science research, I adopted the statistical power of .80 and significance (alpha) level of .05. The type of statistical test for the study and recommendations from previous studies informed the decision on the effect size.

This study involved the use of a treatment group and comparison group, with each group having equal representation in the sample selection. Therefore, the desired sample size was calculated to account for the two groups. Measuring the effectiveness of the intervention in the treatment group entailed providing valid evidence that the average performance of beneficiaries from the public intervention significantly differs from the performance of the comparison group of entrepreneurs. Thus, the statistical test that provided differential evidence between the two groups was the two samples  $t$  test for

independence between the two groups. Prajapati et al. (2010) recommend a medium effect size of .50 for a statistical test of mean difference involving independent samples. Further, Sajuyigbe and Fadeyibi (2017) studied women entrepreneurs in Nigeria after obtaining an effect size of .55. However, meta-analyses on entrepreneurs has shown average small effect sizes (Martin, McNally, & Kay, 2013) as well as an average effect size of 0.183, which is a small effect size (Cho & Honorati, 2014). Therefore, considering the medium effect size of .50 derived for Nigeria and the small effect size of 0.2 obtained from a meta-analysis involving other countries, I computed the average of the two levels to derive an effect size of 0.35 to calculate the required sample size.

**G\*Power calculation of sample size.** The G\*Power (version 3.1) was used to calculate the sample size for this study. The parameters provided include effect size of .35, significance level  $\alpha = .05$ , and statistical power  $(1 - \beta) = .80$ . The allocation ratio ( $N_2/N_1$ ) of sample size for each group is 1, where  $N_1$  is the sample size for the treatment group, and  $N_2$  is the sample size for the comparison group. The G\*Power calculation with these parameters produced a total sample size of 260 with each group having a size of 130 participants (see Appendix D for details).

### **Procedures for Recruitment, Participation, and Data Collection**

**Recruitment.** I partnered with a public sector agency set up solely for entrepreneurship development within the FCT Abuja, Nigeria. The agency's major intervention for entrepreneurs is the provision of business training. Often with support from other public institutions, the agency provides specialized training for select economic sectors such as agriculture, manufacturing, trading, mining, information

technology, and other service delivery including artisans. The agency started full-scale business training in 2014 and maintains a list of participants and other applicants to their trainings. Due to the constraint on logistics, the agency admits a limited number of participants in each of its training programs. Thus, it was easy for me to rely on the database to draw participants for the treatment group and obtain the comparison group from among the applicants not trained. The list from the Agency's database provided the basic contact information of each applicant such as name, address, phone number, email address, and nature of the business. Some of the basic information about the applicants (both trained and untrained) were useful in the recruitment process. The list showed that most of the applicants reside within the six (6) area councils in the FCT. The area councils include Abaji, Bwari, Gwagwalada, Kuje, Kwali, and Municipal. I stratified the list into trained and untrained participants, while each group was subsequently arranged by the nature of business to ensure even distribution of the sample selection.

**Participation.** After the sampling process, I sent a formal invitation to the selected participants to request their participation in the study. The invitation letter contained all the relevant information about the study including its purpose and the expected benefits. The letter also assured the applicants of the confidentiality of the information provided and their responses to the questions with an adequate guarantee on information protection to avoid any adverse effect on them nor their businesses after taking part in the survey. Because of the locational spread of the selected participants and the associated costs of moving round to distribute the letters, I made a phone call to all the participants and read out the content of the invitation letter. Only participants that

agreed to be part of the study were retained in the sample, while those that declined from participating in the study were replaced (see sample invitation letter in Appendix A).

**Data collection.** I adopted the survey method for data collection. The survey method has different approaches for data collection such as face-to-face interviews, mail questionnaires, Internet (online) questionnaires, and telephone interview (Frankfort-Nachmias et al., 2015; O’Sullivan et al., 2017). Given the heterogeneous nature of the study participants expected in the survey, I used a mix of face-to-face interview and online questionnaire to collect data from the participants. However, the face-to-face interaction with the participants was more effective to minimize non-response to the survey or omitting some vital questions required for the study. After receiving the questionnaires, the participants were allowed to respond at their convenience within four weeks to minimize the loss of confidence associated with privacy and releasing personal information by participants (O’Sullivan et al., 2017). The face-to-face contact provided me the opportunity to match the responses of the participants to the realities of their business which I used to crosscheck understated or overstated position of their businesses. However, the simplicity of the questionnaire ensured that participants supplied all the necessary information with minimal memory recall and with less guidance (see sample questionnaire in Appendix B).

One of the major challenges in survey research is the low response rate arising from non-response or invalid responses (Frankfort-Nachmias et al., 2015). Therefore, to mitigate this challenge, I used phone calls to remind participants that opted to partake in the survey. After three reminders without a response, I regarded such participant as a



non-response. For participants that responded to the survey, I sent a personal appreciation text message for participating in the study with the reassurance that the information provided will be solely used for the study.

### **Pilot Study**

The pilot study is a crucial part of successful quantitative research. It entails the use of a smaller sample of the targeted participants to test every aspect of the study including the questionnaire, timing of the interview, ease of reaching out to the study participants, data compilation procedures, and data analysis (O'Sullivan et al., 2017). For the questionnaire, the pilot study helps to improve the outcome of pretest exercise. I took a random sample of a smaller group of participants from the database to form part of the pilot study. The participants operate within the area councils in the FCT which availed me of any locational differences among the participants as it pertains to the questions or purpose of the study.

The purpose of the pilot study was to enhance the outcome of the main study by providing a useful guide in carrying out the final study. The pilot assisted the study to minimize technical challenges arising from the questionnaire or the data analysis procedure. Sometimes researchers run into problems during the data analysis when they discover that the data collected cannot provide enough information to answer the research questions or test the study hypothesis. Such occurrence defeats the objective of the study and frustrates the research process. O'Sullivan et al. (2017) argue that the lack of pilot studies results into a waste of human and material resources and advises researchers to address problems identified in the pilot study before embarking of the main study. This

study allocated adequate time and resources to conduct the pilot study and utilized the outcome to improve on the final study.

### **Instrumentation and Operationalization of Constructs**

**Instrumentation.** Instrumentation is a critical element in evaluation studies. It takes into consideration the desired constructs in a study to delineate what variables to measure or collect from the study participants. It generates internal validity issues, particularly, for studies involving pretest and posttest designs (McDavid et al., 2013). However, O’Sullivan et al. (2017) posit that instrumentation can be a source of threat for a study with a comparison group if the researcher applies different methods in measuring the dependent variable for each group. McDavid et al. (2013) did not recognize instrumentation as an internal validity issue affecting the posttest only comparison group design. Therefore, this study had a lesser concern about the internal validity problem arising from the measurement of the variables. Nevertheless, I utilized indicators applied in some of the instruments used in other evaluation studies on entrepreneurship training to develop a singular survey questionnaire to collect data from both the treatment and comparison groups.

The intervention program on entrepreneurship development in Nigeria looks much similar with existing interventions in other developing countries. Evaluation of such programs had utilized the quasi-experimental designs instead of randomized control trials (RCT), as the latter is not amenable to policy designs in developing countries (Dalziel, 2018). Thus, most of the evaluations on public-sector business support programs adopted the posttest design such as the evaluation study on Uganda’s entrepreneurship

training program sponsored by the Uganda Investment Authority (Corporate Links Limited, 2010). I reviewed some of the variables measured in the previous studies as well as the variables required to answer the study research questions and developed a questionnaire to capture valid demographic and business data from the participants in the treatment and comparison groups. Some of the indicators contained in the registration information captured by the partnering agency were used. Overall, the questionnaire captured information that was readily available from the participants and avoided asking questions that required a lot of memory recall to minimize bias in the data.

**Operationalization of constructs.** McDavid et al. (2013) connected constructs with variables by recognizing the process of designing the survey instrument as a critical element in the measurement of constructs. They posit that the decision of what and how to measure depends on the intended program outcomes and environmental factors, which links the program constructs to the operational variables. The operational variables serve as a major input into the development of a valid research instrument. Thus, study variables emanate from conceptual definitions, which further reduces to operational definitions (O'Sullivan et al., 2017). The ability of a researcher to move from the conceptual definition of variables to the operational level makes it easy for proper measurement in empirical or observational settings. Frankfort-Nachmias et al. (2015) posit that operational definition transforms the conceptual definition of variables into reality. The constructs for intervention programs emanate from the program objectives (McDavid et al., 2013). Constructs include the words or phrases used to define the program and its environment, as well as the link between program output and outcomes.

This study applied existing constructs in entrepreneurship development to develop operational variables.

In operationalizing variables into real-world data, O'Sullivan et al. (2017) recognizes the need for the researcher to identify and understand what constitutes the unit of analysis. It is important to define the unit of analysis before the data collection process as it determines the object of study (Frankfort-Nachmias et al., 2015). In this research, the unit of analysis comprised the individuals that participated in the public sector organized entrepreneurship training as well as the people that applied for the training but were not selected. The variables required for this study were the participant's age group, gender, marital status, educational level, employment status, languages spoken, nature or type of business, number of years in business, monthly business revenue, monthly business profit, loan amount, source of loan, participation in business public sector training, and business start-up after training. The selection of these variables was also to satisfy the study research questions.

The measurement scale for the study variables was a mix of nominal, ordinal, and interval variables. However, the description of each variable was by one type of categorization only, which means that the measure of a variable was not in more than one scale.

***Description of variables.*** Table 1 provides a detailed description of the variables used for this study classified by type and method of measurement.

Table 1

*Variable Description and Measurement*

S/N	Variable name	Type and method of measurement
1	Sex	Nominal Male Female
2	Age group	Ordinal Below 15 years 16 - 25 years 26 - 35 years 36 - 50 years Above 50 years
3	Educational level completed	Ordinal Never went to school Primary Secondary Diploma equivalent Graduate (bachelors or equivalent) Post-graduate
4	Language proficiency	Nominal Fluent in English only Fluent in English and at least one local language Fluent in local languages only
5	Marital status	Nominal Never married Married Divorced Widow/widower
6	Current business status	Nominal Own a business No business
7	Ownership type of business	Nominal Sole proprietor Partnership Limited liability company
8	Location of business	Nominal Urban Rural Semi-Urban
9	Nature and type of business	Nominal Manufacturing Agriculture (crop) Agriculture (animal) Trading (wholesale or retail) Services
10	Age of business (in years)	Scale
11	Employment size of business (number of persons)	Scale
12	Current monthly revenue from business (value in Naira)	Scale
13	Current monthly profit from business (value in Naira)	Scale
14	Applied for business loan from bank/financial institution	Nominal Applied for loan Never applied for a loan

*(table continues)*

S/N	Variable name	Type and method of measurement
15	Status of business loan application	Nominal Loan approved Loan not approved
16	Main reason for the denial of loan approval	Nominal Lack of a business plan Lack of collateral Improper documentation No reason stated
17	Total value of business loans received and used for business (amount in Naira)	Scale
18	Sources of the business loans	Nominal Commercial/Merchant/Non-interest bank Microfinance bank Cooperative Finance company Moneylender Development finance bank
19	Training status	Nominal Trained Untrained
20	Participants' employment status before business training	Nominal Employed with government Employed with a private firm Self-employed Unemployed
21	Participants' business status before attending business training	Nominal Own a business Not in business
22	Business start-up immediately after the training	Nominal Started business Did not start business
23	Source of funds to start business immediately after training	Nominal Own savings Support from family & friends Borrowed from a financial institution(s) Received funding from government or training agency
24	Participants' business status after attending business training	Nominal Started a business immediately after training Looking for funds Did nothing Applied the knowledge from the training to existing business
25	Length of stay after training before starting a business	Ordinal Six months One year More than one year
26	Rating of business performance after training	Ordinal Declined Remain the same Improved

### **Data Analysis Plan**

The purpose of this quantitative study is to evaluate the effectiveness of public sector interventions in entrepreneurship development in Nigeria. I used the SPSS software developed by the IBM to analyze the data. The SPSS allows the coding of survey responses appropriately for ease of analysis and useful for the data cleaning and screening procedure, as it provides the facilities for handling data quality issues. Frankfort-Nachmias et al. (2015) recognizes the data screening and cleaning process as an important step before the final analysis. The data editing entailed checking for errors and omissions to ensure that participants completed all the relevant sections of the questionnaire. The editing process also involved checking for any inconsistencies in responses. The data cleaning process entailed using the SPSS software to cross-check the data coding for logical consistency and ensure that the coding of related questions was internally consistent.

There were three research questions to tackle the overriding question, “Does public sector intervention in entrepreneurship development enhance the entrepreneurial capacity of the beneficiaries?” The three outcome variables selected for the study to determine the effectiveness of the public-sector intervention in entrepreneurship development in Nigeria were business profitability, access to business loans, and business start-up. Therefore, the research questions and hypothesis required to justify this assertion were:

Research Question 1: Is there any significant relationship between business profitability and participation in a public sector sponsored business training?

$H_01$ : There is no statistically significant relationship between business profitability and public sector sponsored business training.

$H_a1$ : There is a statistically significant relationship between business profitability and public sector sponsored business training.

Research Question 2: Does participation in business training increase access to loans from formal financial markets?

$H_02$ : Participation in business training is not a predictor for access to loans.

$H_a2$ : Participation in business training is a predictor for access to loans.

Research Question 3: Does participation in business training enhance the ease to start up a business?

$H_03$ : Participation in business training does not enhance the ease to start up a business.

$H_a3$ : Participation in business training enhances the ease to start up a business.

Analysis of quantitative data requires the use of statistical techniques such as null hypothesis significance testing, correlation analysis, regression modeling (linear or logistic), among numerous other data analysis methods. These statistical tests are useful tools that assist a researcher in exploring relationships among variables. O'Sullivan et al. (2017) explains that the choice of a statistical test largely depends on the researcher's statistical skills, the nature of the data, and the type of research problem proposed for the study. Therefore, the nature of the research questions posed for the study determines the type of statistical tests required for the data analysis. In a broader sense, Frankfort-Nachmias et al. (2015) posit that the choice of statistical tests also stems from the type of



variables generated in the study, arguing that some statistical tests are suitable for nominal variables, while others are more amenable to continuous variables.

In adopting statistical tests suitable for this study, I considered the research questions and the measurement scales of the variables. With a mix of nominal and interval variables, I employed a mix of statistical tests for the data analysis using the statistical test for mean differences in independent samples and the logistic regression analysis. The statistical *t* test for mean differences was used to test the existence of any relationship between business training and business profitability by comparing the trained participants with the untrained comparison group. The *t* test took care of the first research question and the accompanying hypothesis.

I adopted the logistic regression modeling technique to provide answers to the second and third research questions on whether business training was a predictor for access to loans and determine the factors that predicts trainees' ability to start a business, respectively. The access to loans and business start-up being dichotomous dependent variables with multiple independent variables measured in either nominal or interval scales. The logistic regression was a suitable tool in providing information about the relationships between the predictors and the outcome variables. The predictor variables include business training, age group, gender, educational level, marital status, business experience, location of business (urban or rural), and nature of the business. The measurement of the independent variables was mostly on the nominal scale.

### **Threats to Validity**

Evaluation studies require that the investigator considers relevant external and internal validity issues associated with the study design and data collection process. An evaluation should be both externally and internally valid to justify a program as effective (O'Sullivan et al., 2017). External validity ensures the generalizability of the study findings using the information provided by the selected participants. Internal validity guarantees the existence of a link between the study variable with the evidence that the independent variables caused the outcome or dependent variables (Frankfort-Nachmias et al., 2015). The relevance of this study to the continued use of public funds to support entrepreneurship development in Nigeria entails that this research must be both externally and internally valid for public institutions in the country and similar jurisdictions to apply the findings from the study.

The major external validity threat necessary for this study concerns the generalizability of the study findings which relates to making deductions from the sampled participants to the larger population of trainees in the public sector programs. Secondly, the threat from operational validity (O'Sullivan et al., 2017), which relates to issues of proper and accurate measurement of study variables by ensuring that they measure what they ought to measure. I used a robust sample size estimation technique that is suitable for the research design and statistical analysis to minimize the external validity threat that can be associated with generalizing the findings. In addition, I adopted variable definitions utilized in similar studies to reduce the operational validity threat and purposefully selected participants that understood the essence of the study for the pretest

exercise to eliminate the validity threats arising from the effect of pretesting. This approach helped me to checkmate the occurrence of reactive effects from the participants, as it minimized the number of trainees that knew about the study before the main survey. Thus, I operated with minimal threats to external validity to ensure that the study becomes a reference document for evaluating public-sector programs in entrepreneurship development.

Out of the various internal validity threats in program evaluation, McDavid et al. (2013) identified five major threats that affect the posttest only comparison group design. These threats include history, selection, maturation, attrition/mortality, selection-based interactions, and ambiguous temporal sequence. Most of these threats arise due to the non-randomization of the study groups like in experimental designs (O'Sullivan et al., 2017). I minimized these threats by randomly selecting participants using the survey frame. I developed the frame from the list participants and applicants compiled by the partnering agency in the last 5 years (2014 – 2018) to ensure that the effect of time on the entrepreneurship capability of the trainees was minimal, which helped to reduce the threat from maturation. The threat of attrition/mortality and ambiguous temporal sequence did not arise in this study given that I used participants that completed the training as the treatment group while the data collection and analysis procedures were on the key variables that measured program effectiveness.

### **Ethical Procedures**

Protecting the rights of participants in a research study is of paramount interest to institutional review boards (IRBs). In program evaluation, the essence of evaluation

guidelines, standards, and principles was to maintain a high sense of ethical practice by evaluation professionals (McDavid et al., 2013). Although, the field of policy research may not pose any physical harm or life-threatening situations to participants (O'Sullivan et al., 2017), they can present potential risk factors to them such as angry feelings, humiliation, or anxiety. Therefore, ethical research ensures the minimal occurrence of such negative effects on the participants. The realization of ethical compliance requires that investigators receive appropriate training and instruction on how to handle human subjects in research. In compliance with this requirement, I undertook a training on protecting human research participants (see Appendix C). This certification complies with the requirements of the National Code of Health Research Ethics, which guides the conduct of research involving human participants in Nigeria (National Health Research Ethics Committee of Nigeria, 2007).

One of the important requirements for this study was the access to the participants for the data collection process. The need to respect the rights and privacy of the trainees entailed that the public agency handling the business training was aware of my intention to use its clients in the study. Therefore, preliminary interaction with the agency showed their willingness to allow me gain access to their trainees' information and subsequently contact them for further data collection. The agency provided a letter of cooperation to conduct the study using participants from its entrepreneurship development programs. The essence of getting the full cooperation from the agency complies with professional evaluation standards in protecting the use of personal information of their clients and the agency's intervention program.

The participants in any research study need to possess adequate information about their involvement including the potential benefits of the study and express their willingness to participate voluntarily (O'Sullivan et al., 2017). The use of consent forms administered to the research participants before the data collection exercise remains the only valid means of proving their willingness. The process explains in detail any risks associated with their participation as well as individual or collective benefits arising from the study. I used the consent form approved by the Walden University Institutional Review Board to carry out the study (approval number for this study was 10-01-18-0516990). The form provided information on the costs and benefits to participants, data collection procedures with the potential risks, the basis of their selection to participate, and the protection of the confidentiality of information provided for this study.

Given that the study relates to an existing program and most of the participants had completed their training, there were minimal risks associated with their participation in the study. Also, the responses from the participants were anonymous to eliminate any potential risk arising from their responses. The anonymous responses also ensured that participants provided unbiased information to the study. The consent form further notified the respondents that there was no form of compensation due to them for participating in the study but was duly informed of the potential benefits of the study in guiding government support to entrepreneurs in Nigeria.

Apart from the anonymous nature of the data supplied during the survey, I provided guarantee to the participants of adequate protection of all their information from unauthorized access, including not using any third party to process or analyze the data.

However, given the business and personal information obtained from the survey, I utilized appropriate encryption techniques and password protection to secure the data from unauthorized access. I will archive all the data and related information from the participants at the end of the study and submission of the final dissertation work.

### **Summary**

This chapter explored in detail how the application of the posttest with comparison group design helped this study to actualize the objective of evaluating the effectiveness of government intervention in entrepreneurship development in Nigeria. Using survey data from participants in the business training provided by the partnering agency and the applicants that were not selected for the training as a comparison group, I applied appropriate statistical techniques to assess the program impact using the independent samples *t* test to find the presence of any statistical difference between the two groups regarding their business outcomes such as employment, revenue, and profitability. Using the binary logistic regression technique, I can establish the relationship between access to finance and business start-up as dependent variables with the independent variables such as business training, age group, gender, educational level, business location, nature of business, and business experience. The logistic model provided a probabilistic prediction of participant's ability to obtain business loans given that they participated in the business training. These statistical analyses were the fulcrum of discussions in the next chapter which provides a detailed account of the data collection, management, and analysis procedures as well as the findings from the study.

## Chapter 4: Results

### **Introduction**

The purpose of this quantitative quasi-experimental study was to assess the effectiveness of government interventions in entrepreneurship development through business training to Nigerian entrepreneurs to enhance their ability to finance a startup or grow their businesses. The main research question was: Does government support to entrepreneurs increase entrepreneurship performance in Nigeria? This main question was explored using these research questions and hypotheses:

Research Question 1: Is there any significant relationship between business profitability and participation in a public sector sponsored business training?

$H_01$ : There is no statistically significant relationship between business profitability and public sector sponsored business training.

$H_{a1}$ : There is a statistically significant relationship between business profitability and public sector sponsored business training.

Research Question 2: Does participation in business training increase access to loans from formal financial markets?

$H_02$ : Participation in business training is not a predictor for access to loans.

$H_{a2}$ : Participation in business training is a predictor for access to loans.

Research Question 3: Does participation in business training enhance the ease to start up a business?

$H_03$ : Participation in business training does not enhance the ease to start up a business.

*H<sub>a3</sub>*: Participation in business training enhances the ease to start up a business.

This chapter presents the data collection procedures and the results of the data analysis conducted to justify the research purpose, questions, and objectives. Following this introductory part of the chapter is the discussion of the pilot study carried out before the main data collection. The subsequent section presents the activities carried out during the data collection stage including a presentation of the baseline demographic characteristics of the sampled respondents as well as the target population. The Results section presents the statistical analysis of the data and findings in line with the research questions and hypotheses, and the last section of this chapter summarizes the results of the study.

### **Pilot Study**

A pilot study was used to test run the research instruments such as the sampling frame, questionnaires, and fieldwork operations. The essence of the pilot study was to guide the main data collection exercise and ensure that the respondents understood the survey instruments. The pilot study also provided me the opportunity to carry out preliminary statistical analysis to ensure that the survey instruments answered the study research questions and met the research hypotheses. I selected 30 participants for the pilot study, which was above 10% of the total sample size for the study (26 participants). The essence of selecting more than 10% was to plan for nonresponse by some of the participants. The number of participants drawn from each group (treatment and control group) was 15 entrepreneurs. The basis for this composition was on the equal proportion adopted in calculating the sample size for the study.



The pilot survey lasted for 2 weeks from October 15 to October 28, 2018, with the first two days used to reach out to the selected participants through telephone calls and invite them to participate in the survey. An online version of the questionnaire was provided to participants who preferred to respond through the online approach using Google Form. Only participants who agreed to be part of the study received the questionnaire. All the 30 selected participants agreed to participate in the survey during the telephone invitation. Out of the selected 30 participants, 22 opted to respond to the survey online, and eight of them requested for a face-to-face delivery. However, only 11 participants (nine trained and two untrained) responded to the survey at the end of the 2 weeks, which resulted in a 36.7% response rate in the pilot exercise. Online responses were received from six participants, whereas five participants responded through the face-to-face delivery. Participants were reminded to respond to the survey through e-mail and telephone calls for the online participants and using only calls to remind those who opted for face-to-face before visiting those who were ready to retrieve the completed questionnaires.

Out of 11 respondents in the pilot study, 36.4% were males, and 63.6% were females. The age distribution of the respondents ranged from 16 years to 50 years. However, most of the respondents (63.6%) were between 26 to 35 years of age. Seven of the respondents were running business majorly in two sectors: trading (four participants) and services (three participants). Due to insufficient data, further statistical analysis to test the research questions were carried out; however, the results were not meaningful for reporting. The analysis of the pilot study provided the necessary guide for the conduct of

the main survey and the responses expected from the participants, especially on the data collection method.

### **Data Collection**

The data collection for the current study lasted for 4 weeks (November 5 to November 25, 2018). Participants were recruited based on the list of trainees and applicants to various business training sessions organized by the partnering agency. A total of 300 participants were randomly selected from the list obtained from the agency with each group (trained and untrained) having 150 entrepreneurs. The untrained participants were applicants who did not attend the training. Each of the groups had existing and intending entrepreneurs, which made them equivalent groups. The increase in the sample size from 260 proposed at the design stage to 300 was to take care of nonresponse based on the large nonresponse rate of 63.3% obtained during the pilot stage. At the end of the survey, a total of 131 trained and 112 untrained participants responded to the survey, resulting in response rates of 87.3% and 74.7% for the trained and untrained participants, respectively.

Based on observations regarding respondents who opted for the online approach during the pilot exercise, I modified the data collection design during the main survey. After accepting to be part of the study through the telephone invitation, the questionnaires were administered through the face-to-face approach to all participants except those who were unreachable due to business trips or the investigator could not locate their address. Such participants, which numbered up to 83, provided valid e-mail addresses used to send the online version of the questionnaire. The initial telephone invitation helped me to

collate valid addresses of the participants used to group them into locational clusters. I spent an average of 2 days per cluster to distribute the questionnaires and did the same during the retrieval period with some call-backs. After series of telephone call-backs to the online respondents, some of them opted for a face-to-face delivery of the questionnaires. Thus, out of the 243 responses received in the survey, only 18 were from the online approach, whereas the greater number (225) came through the face-to-face method.

**Baseline sample description.** The data on the trained and untrained participants sourced from the partnering agency provided information on participants' names, the business name for those already in business, nature of the business, gender, age, telephone numbers and e-mail addresses, level of education, business and residential address. However, most of the participants and applicants did not provide this basic information. Thus, the list was validated by eliminating participants without valid contact details, particularly a telephone number. After the sampling process, participants whose phone numbers were not reachable or with invalid e-mail addresses were eliminated and replaced with participants who had similar characteristics such as nature of the business, gender, or educational level.

Out of 300 participants selected for the study, 218 of them were already running a business (68 among the trained and 150 of the untrained). The reason for selecting only applicants who were operating businesses among the untrained was to obtain the relevant information to answer the first research question. However, experience in the field showed that the status of most of the participants was different from their status in the

agency's database. Some of the selected untrained participants did not have any business but had indicated interest in the training. The demographic information provided by the selected participants showed that among the 150 trained, there were 24 males and 19 females and most of them did not indicate their gender, and the sampled untrained participants were 76 males and 74 females. Regarding age, only six trained and 14 untrained participants supplied their age or age group to the agency. Most of the trained participants did not indicate their level of education, but 70 of the sampled untrained entrepreneurs provided their level of education.

After the cleaning of the data provided by the partnering agency, which was carried out by me with guidance from the agency personnel, the total number of participants contained in the database was 1,627 trained and 1,473 untrained. The cleaning exercise involved the removal of duplicates from the database as the list was collated from the marketing and training departments of the agency. Further cleaning was carried out to eliminate those with incomplete information from the untrained list. Given this number of participants in the trained and untrained survey frame, the sample size of 150 participants from each group produced a sample proportion of 10.2% for the untrained and 9.2% for the trained group. However, the sample size of 300 was above the 260 designed for the study to produce a reasonable effect size. Moreover, I was mindful of the cost implications of a larger sample size in administering and retrieving the questionnaires.

### **Intervention Fidelity**

The source of intervention in this study was participation in a public sector sponsored business training for entrepreneurs, which formed a major consideration in the selection of participants. The nature of the study required an equivalent control group to provide the counterfactual evidence on the effectiveness of the intervention program. The availability of trained entrepreneurs and applicants (untrained) in the partnering agency's database facilitated the intervention fidelity, as it provided a suitable control group for the study. However, the size of the control group was constrained by the reality that some of the selected untrained participants were found not to be in business as captured in the agency's database. Thus, from responses received from participants in the control group, only 62 participants were operating a business out of 112 respondents, which was sufficient to answer the first two research questions in the study.

## **Results of the Study**

### **Descriptive Statistics of Participants**

The total number of participants who responded to the survey was 243 out of which 53.91% were trained participants (131), whereas 46.09% (112 responses) came from the untrained group. This section presents a description of the study participants based on their demographic information, business status, access to finance, and business status after the training.

**Participants demographics.** The 133 male participants in the study comprised of 52.6% trained and 47.4% untrained, whereas there were 110 female participants (55.5% from the treatment group and 44.5% untrained). The highest response received in the

survey came from participants between 26 and 35 years old (39.1%) followed by the 16–25 age group with 30.3%, whereas participants from 36–50 and above 50 age groups constituted 25.6% and 5.0% of the respondents, respectively. A greater proportion of the participants were never married (57.2%), and 39.4% of them were married. Only six and two participants indicated their marital status as divorced and widow/widower, respectively.

Table 2

*Participants' Marital Status*

		Participant Status (%)		Total
		Trained	Untrained	
Marital status	Never married	56.7	57.8	57.2
	Married	39.4	39.4	39.4
	Divorced	2.4	2.8	2.5
	Widow/widower	1.6	0.0	0.8
	Total	100.0	100.0	100.0

More than half of the participants in the survey had a bachelor's degree or its equivalent (51.3%), and other participants 17.4%, 16.1%, and 15.3% had secondary, diploma equivalent, and postgraduate education, respectively.

Table 3

*Participants' Educational Level Completed*

		Participant Status (%)		Total
		Trained	Untrained	
Educational level completed	Secondary	15.0	20.2	17.4
	Diploma equivalent	16.5	13.8	15.3
	Graduate (bachelors or equivalent)	55.1	46.8	51.3
	Post-graduate	13.4	19.3	16.1
Total		100.0	100.0	100.0

Almost all the participants in the study had proficiency in English and at least one local language (91.2%), and 8.0% had proficiency in English language only. Only two participants indicated that they had proficiency in local languages only.

Table 4

*Participants' Language Proficiency*

		Participant Status (%)		Total
		Trained	Untrained	
Language proficiency	Fluent in English only	9.4	6.4	8.0
	Fluent in English and at least one local language	90.6	91.8	91.2
	Fluent in local languages only	0.0	1.8	0.8
Total		100.0	100.0	100.0

**Business status.** Out of a total of 152 participants who were already doing business as at the period of the survey, 90 of them from the trained group and 62 were among the untrained. Among the 89 respondents who were not operating any business during the survey period, 40 were among the trained and 49 were untrained. The nature of business operated by participants that indicated having a business during the survey were services (39.5%), trading (25.7%), manufacturing (15.1%), livestock production including fishery (13.2%), and crop production (6.6%).

Table 5

*Nature and Type of Business*

		Participant Status (%)		Total
		Trained	Untrained	
Nature and type of business	Manufacturing	13.3	17.7	15.1
	Agriculture (crop)	7.8	4.8	6.6
	Agriculture (animal)	15.6	9.7	13.2
	Trading (wholesale or retail)	24.4	27.4	25.7
	Services	38.9	40.3	39.5
Total		100.0	100.0	100.0

Most of the participants operated their businesses in urban locations (57.0%), whereas 27.2% and 15.9% of them operated in the semiurban and rural locations, respectively.

Table 6

*Business Location*

		Participant Status (%)		Total
		Trained	Untrained	
Type of business location	Urban	56.2	58.1	57.0
	Rural	13.5	19.4	15.9
	Semi Urban	30.3	22.6	27.2
	Total	100.0	100.0	100.0

The sole proprietorship form of business ownership was dominant among respondents that were operating a business venture as alluded by 67.8% of them,



whereas 16.4% and 15.8% of the participants operated limited liability and partnership types of business, respectively.

Table 7

*Type of Business Ownership*

		Training Status (%)		Total
		Trained	Untrained	
Ownership type of business	Sole proprietor	61.1	77.4	67.8
	Partnership	16.7	14.5	15.8
	Limited liability company	22.2	8.1	16.4
Total		100.0	100.0	100.0

***Access to finance.*** Most of the participants (73.6%) who were running a business as at the time of the survey indicated that they had never applied for a business loan from any financial institution in Nigeria. Out of the 39 participants (26.4%) that had applied for a business loan, the majority were among the trained participants.

Table 8

*Participants' Business Loan Application Status*

		Participant Status (%)		Total
		Trained	Untrained	
Applied for a business loan	Applied for Loan	30.7	20.0	26.4
	Never applied for loan	69.3	80.0	73.6
Total		100.0	100.0	100.0

The participants that obtained business loan approval were 17 (44.7%), whereas most of them (55.3%) did not get their business loans approved by the financial institutions.

Table 9

*Approval Status of the Business Loan*

		Participant Status (%)		Total
		Trained	Untrained	
Business loan approval status	Loan approved	44.4	45.5	44.7
	Loan not approved	55.6	54.5	55.3
Total		100.0	100.0	100.0

Most of the participants (61.9%) reported that the reason(s) for not approving their loans were never communicated to them by the financial institutions, whereas 28.6% and 9.5% of them were due to lack of collateral and improper documentation, respectively.

Table 10

*Main Reason for the Denial of Loan Approval*

		Participant Status (%)		Total
		Trained	Untrained	
Main reason for denial of loan	Lack of collateral	26.7	33.3	28.6
	Improper documentation	13.3	0.0	9.5
	No reason stated	60.0	66.7	61.9
Total		100.0	100.0	100.0

The dominant source of business loans to entrepreneurs was the microfinance banks as was reported by 52.9% of the participants followed by commercial banks.

Table 11

*Source of Business Loans*

Source of business loans		Participant Status (%)		Total
		Trained	Untrained	
	Commercial/Merchant/Non-interest bank	8.3	40.0	17.6
	Microfinance bank	66.7	20.0	52.9
	Cooperative	8.3	20.0	11.8
	Finance company	8.3	20.0	11.8
	Development finance bank	8.3	0.0	5.9
Total		100.0	100.0	100.0

**Status after business training.** The study also posed some questions to the trained participants that captured their status before and after the taking part in business training provided by the partnering public agency. Most of the trainees (59.3%) were self-employed, whereas 20.3% of them were unemployed. The remaining trained participants were either working with a government or private organization.

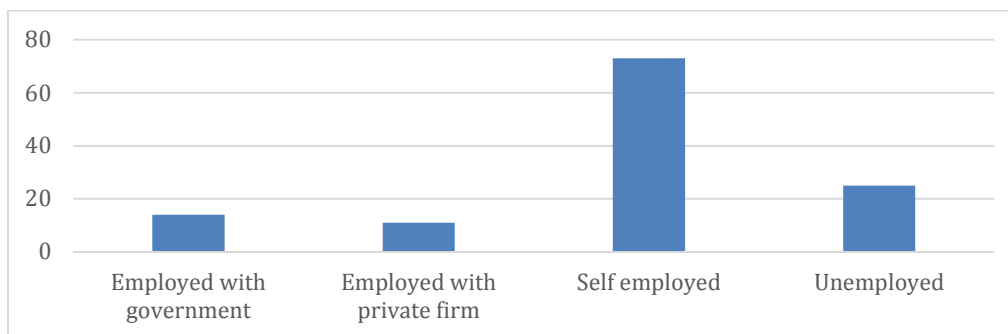


Figure 2. Employment status before attending business training.

A larger proportion of the trained participants (57.6%) were already in business before attending the business training, whereas 42.4% of them were not operating any business before their participation in the training.

Thus, 55.3% of them indicated that they applied the knowledge garnered from the business training to manage their existing businesses. After attending the business training, 21.1% reported that they were looking for funds to start a business whereas 16.3% of them responded that they started a business immediately after attending the business training program offered by the agency. However, only 7.3% of the trained participants responded that they did nothing after attending the business training.

Table 12

*Participants' Status After Attending Business Training*

		Percent
Trainees' status after business training	Started a business immediately after training	16.3
	Looking for funds to start a business	21.1
	Did nothing	7.3
	Applied the knowledge from the training to my existing business	55.3
Total		100.0

On the length of time delayed before starting a business after receiving the training, most of the participants (80%) waited for about 6 months, whereas others (20%) waited for more than a year before starting a business. Most of the participants (45.0%) used personal savings to start their business immediately after taking part in the business training, whereas 30.0% received funding from the training agency. Support from family

members and friends was an initial source of funds for 20.0% of the participants, whereas 5.0% of immediate start-up businesses obtained loans from financial institutions.

Most of the trained participants (92.6%) who were already operating a business before attending any of the business training organized by the public agency reported that the training program improved their businesses. However, 7.4% of such participants reported that the business training did not affect the performance of their existing businesses.

Table 13

*Rating of Business Performance After Training*

		Business performance rating after training (%)		Total
		Remain the same	Improved	
Type of business	Manufacturing	0.0	14.3	13.2
	Agriculture (crop)	0.0	11.1	10.3
	Agriculture (animal)	0.0	14.3	13.2
	Trading (wholesale or retail)	40.0	22.2	23.5
	Services	60.0	38.1	39.7
Total performance rating		7.4	92.6	100.0

### **Statistical Analysis and Assumptions**

The foremost research question posed for the study is: Does government support to entrepreneurs increase entrepreneurship performance in Nigeria? The sub-questions include:

Research Question 1: Is there any significant relationship between business profitability and participation in a public sector sponsored business training?

$H_01$ : There is no statistically significant relationship between business profitability and public sector sponsored business training.

$H_{a1}$ : There is a statistically significant relationship between business profitability and public sector sponsored business training.

Research Question 2: Does participation in business training increase access to loans from formal financial markets?

$H_02$ : Participation in business training is not a predictor for access to loans.

$H_{a2}$ : Participation in business training is a predictor for access to loans.

Research Question 3: Does participation in business training enhance the ease to start up a business?

$H_03$ : Participation in business training does not enhance the ease to start up a business.

$H_{a3}$ : Participation in business training enhances the ease to start up a business.

Providing answers to the three sub-research questions justify the effectiveness of the intervention program of the government. The first sub-research question required the use of the independent samples  $t$  test, while the binary logistic regression provided answers to the last two sub-research questions. The relevant variables required to conduct these statistical tests were business profitability, training status, loan application or approval, business start-up, sex, age-group, nature of the business, marital status, education, business location, business ownership type, year of experience, employment size of business, and employment status before training. Most of the variables were on the nominal scale.

**Tests for statistical assumptions.** Based on the statistical tests required for the study, the analysis involved testing the following statistical assumptions in line with the requirements for each test.

*Independent samples t test.* According to Green and Salkind (2014), the three basic assumptions required for this test include normality of the test variable in each of the two populations, an equal variance of the test variable in the two groups, random selection of the participants from the population. The study design took care of the assumption on random selection, while the normality and equal variance assumptions were tested using the Kolmogorov-Smirnov normality test and Levene's homogeneity test, respectively (Field, 2013). For this analysis, I considered participants with a business that were trained by the public agency only and the control group were those that had never received any form of business training. Based on the valid responses on the three continuous variables, the test for normality and equal variance showed that the variables were non-normal at .05 level of significance (Table 16), but had equal variance according to the Levene's test for all the variables. Green and Salkind (2014) posit that sample sizes larger than 15 minimize the non-normality problem of inaccurate  $p$ -values. Therefore, the  $t$  test was conducted based on the sample size of above 30 participants.

Table 14

*Tests of Normality*

	Kolmogorov-Smirnov <sup>a</sup>				Shapiro-Wilk		
	N	Statistic	df	Sig.	Statistic	df	Sig.
Employment size of business (number of persons)	60	.348	60	.000	.350	60	.000
Current monthly revenue from business (value in Naira)	33	.305	33	.000	.616	33	.000
Current monthly profit from business (value in Naira)	37	.237	37	.000	.770	37	.000

**Binary logistic regression analysis.** The two main assumptions for the binary logistic regression as recommended by Field (2013) include linearity and independence of error (overdispersion). The linearity assumption requires that there is a linear relationship between the outcome variable and the continuous predictor variables. Field (2013) proposes a test for linearity assumption by examining whether the interaction term between the predictor and its log transformation is significant. For the independence of errors, Field recommends using the ratio of the chi-square goodness-of-fit statistic to its degrees of freedom as a measure of overdispersion. If the ratio is greater than 1 then there is overdispersion, while a ratio less than 1 produces under-dispersion.

In this study, most of the predictor variables used in the binary logistic regression were categorical variables except for business experience, business revenue, and employment size, which were continuous variables used to answer the second research question about access to business loans. Using the test recommended by Field (2013), I found that the interaction between each predictor variable and their log transformations



were not significant at .05 level of significance, which indicated a violation of the linearity assumption. I tested for the independence of errors using the test for dispersion, by obtaining the ratio of the chi-square goodness-of-fit statistic to the degrees of freedom. The model for loan access produced a chi-square statistic of 18.49 with 8 degrees of freedom, while the model for start-up had a chi-square value of 12.57 with 4 degrees of freedom. These values resulted in dispersion parameters of 2.3 for loan access and 3.1 for business start-up, indicating overdispersion in the observed variances. Field recommends using the dispersion parameters to rescale the standard error and confidence intervals where necessary.

**Findings from the statistical analysis.** The statistical tests and analysis were conducted based on the targeted research questions and associated hypothesis. The independent samples t-test applied to the first research question whereas the binary logistic regression analysis provided answers to the remaining two research questions.

Research Question 1: Is there any significant relationship between business profitability and participation in a public sector sponsored business training?

$H_01$ : There is no statistically significant relationship between business profitability and public sector sponsored business training.

$H_{a1}$ : There is a statistically significant relationship between business profitability and public sector sponsored business training.

The major comparison for this research question was to assess the existence of any statistically significant difference in business profitability between the treatment group (trained participants) and the control group (untrained participants). Nevertheless,

there was a test for other relevant variables like revenue and employment to ascertain the statistical difference between the two groups. I avoided the internal validity threat arising from history (O’Sullivan et al., 2017) by eliminating participants that had participated in any other business training organized by other organizations such as private institutions, non-governmental agencies, and foreign organizations. Thus, this category had a total of 116 participants made up of 52 participants in the treatment group (received public sector training only) and 64 participants in the control group (never received any business training). The valid responses were different for each of the three test variables, but none of them was below 30 participants.

The result of the independent t-test was not significant for business profitability ( $t(35) = -.303; p = .763$ ), business revenue ( $t(31) = .179; p = .859$ ), and employment size ( $t(58) = 1.144; p = .257$ ). These outcomes indicated that there was no statistically significant difference in business performance between the trained and untrained entrepreneurs, which connotes no relationship between business profitability, revenue, and employment generation with participation in the public sector sponsored business training program.

The effect size for this test was derived using the formula (Green & Salkind, 2014):

$$d = t \sqrt{\frac{N_1 + N_2}{N_1 N_2}}$$

$N_1$  and  $N_2$  were the numbers of valid responses for each variable received from the trained and untrained participants, respectively. The effect sizes of .30, .06, and -.10 for

employment size, business revenue, profitability, respectively, indicated that the effect of business training was moderate on employment size of the trainees' business, but small effect on business revenue and profitability.

The response to Research Question 2 and Research Question 3 required the use of binary logistic regression analysis involving both categorical and continuous predictors. Field (2013) recommends that researchers should adopt a systematic approach to achieve parsimony in building models by including and removing variables based on their level of significance. Thus, I dummy coded only the relevant levels of the categorical predictors to ensure that only the significant variables or the ones that improved the model fit was retained.

Research Question 2: Does participation in business training increase access to loans from formal financial markets?

$H_02$ : Participation in business training is not a predictor for access to loans.

$H_a2$ : Participation in business training is a predictor for access to loans.

The variables captured in the survey to reflect access to loans were loan application and approval as reported by participants in the treatment and control groups. Participants exposed to other business training programs organized by non-public agencies were removed to avoid internal validity issues in the results. Thus, the number of participants captured under this category from both groups was 116. However, due to the few participants that received loan approvals ( $n = 12$ ), which would produce indeterminate regression results, I used only the valid responses on loan application ( $n = 60$ ) as a proxy, as it provided a reasonable sample size. The outcome variable was

dummy coded into dichotomous values to reflect applied for a business loan as 1 and never applied for a business loan as 0. The predictors used in the model include public-sector training, gender, age group, educational level, marital status, nature of the business, ownership type, business location, business experience, and business revenue.

The initial attempt to include all categories of the predictor variables produced an indeterminate result. Thus, the result of the beginning block provided the basis for eliminating predictor levels that would not improve the model fit. I carried out the elimination process iteratively until the model achieved parsimony. Apart from the significance of each predictor, one of the criteria that I used to eliminate categories was the number of responses that favor the outcome (applied for loan) as most of the categorical levels did not improve the goodness-of-fit of the model. Table 15 shows the parsimonious model with seven variables with statistical significance found for ownership type of business at .05 level of significance, while gender and business location were significant predictors for loan access at .10 significance level.

Contrary to expectations, business training, educational level, age, and business revenue were not significant predictors of loan access. However, the odds ratio for business training indicated that participants in the public sector organized business training has a higher likelihood (3.72 times) of applying for a business loan than their untrained peers. Based on the Cox & Snell R Square, the effect size of these predictors on loan access is .43, which indicated a moderate effect.

Table 15

*Binary Logistic Regression for Access to Business Loan*

	B	S.E.	Wald	df	Sig.	Exp(B)
Age group (36 - 50 years)	-.890	1.454	.375	1	.540	.411
Education (Graduate)	-1.329	1.175	1.279	1	.258	.265
Marital Status (Married)	1.408	1.651	.727	1	.394	4.086
Gender (Female)	3.683	2.024	3.313	1	.069*	39.764
Business location (Urban)	-2.501	1.490	2.817	1	.093*	.082
Ownership type (Sole proprietor)	-3.407	1.527	4.978	1	.026**	.033
Business revenue	.000	.000	.521	1	.470	1.000
Public training status	1.313	1.389	.893	1	.345	3.716

Note. \*\* Significant at .05 \* Significant at .10

Research Question 3: Does participation in business training enhance the ease to start up a business?

$H_{03}$ : Participation in business training does not enhance the ease to start up a business.

$H_{a3}$ : Participation in business training enhances the ease to start up a business.

The essence of the third research question was to understand the influence of public sector business training in transforming trainees into entrepreneurs, particularly the unemployed while controlling for the effect of personal attributes of the trainees. Therefore, the analysis focused only on participants that were not operating any business before attending the training. The binary logistic regression analysis has a dichotomous dependent variable (start-up after training = 1, and no start-up after training = 0). A total of 55 respondents trained by the public agency indicated that they were not operating any business before attending the training. Out of this number, 20 of them indicated that they

started a business immediately after participating in the training. Thus, the objective of the analysis was to identify the major factors that influenced their decision. The variables considered for this analysis include gender, age, marital status, educational level, and employment status before training.

The result of the analysis indicated that only the unemployed category in the participants' employment status significantly predict business start-up with the coefficient ( $b = -1.70$ ) and an odd ratio of .18 (Table 15), which indicated lesser tendency to start a business by the unemployed trainees relative to the employed trainees. This result defeats the main objective of the interventions targeted at the unemployed citizens. On the other hand, the odds ratio for 26 – 35 years age-group and male gender participants showed a higher possibility of them starting a business after receiving public sector training. The Cox & Snell R-square statistic of .21 indicated a small effect size of the predictors on the ability of the trainees to start-up business after the business training.

Table 16

*Binary Logistic Regression for Business Start-Up by Trainees*

	B	S.E.	Wald	df	Sig.	Exp(B)
Age group (26 - 35 years)	.451	.627	.518	1	.472	1.570
Employment status (unemployed)	-1.698	.638	7.082	1	.008*	.183
Gender (Male)	.142	.551	.066	1	.797	1.153
Education (Graduate)	-.279	.502	.310	1	.578	.756

*Note.* \* significant at .05

**Suggestions from respondents.** The study questionnaire provided respondents the opportunity to suggest ways of enhancing the effectiveness of public sector interventions in entrepreneurship development in Nigeria. Due to the qualitative nature of

the responses, the major themes generated after pre-coding in Microsoft Excel and were grouped into major issues raised by the participants. A major issue raised by almost all the respondents was the need for financial support or start-up grant to entrepreneurs in the country. Another issue raised by the participants was the inability of most entrepreneurs to obtain business loans from financial institutions. They suggested that the government should set up special purpose funds that will be accessible to entrepreneurs at affordable interest rates. Some participants also identified the need for a friendly business environment that would support entrepreneurial endeavors.

### **Summary**

With the use of various statistical tests and analysis, this chapter provided evidence to justify the three research questions adopted for this study. On the first research question, I found no evidence to support the hypothesis that public sector sponsored business training enhances participants' business performance such as profitability, increased revenue, and employment generation. Also, in evaluating the second research question, the result of the binary logistic regression analysis indicated that public sector training did not predict participants' access to business loan, whereas analysis for the third research question showed that the interventions did not enhance the ability of the unemployed beneficiaries to start-up a business after attending the training programs.

Given these results, it became highly imperative that the subsequent discussions in this study would focus on issues and recommendations that would reverse the status quo and enhance the effectiveness of government intervention programs in

entrepreneurship development. Such recommendations would include approaches for future research to guide the implementation of government interventions in Nigeria.



## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

The purpose of this quantitative quasi-experimental study was to assess the effectiveness of government interventions in entrepreneurship development through the business training to Nigerian entrepreneurs to enhance their ability to access finances to start or grow their businesses. A posttest comparison group design was used to establish the program effectiveness in enhancing entrepreneurial outcomes. The study was designed to provide evidence that offering business training to entrepreneurs by public institutions enhances their capacity to finance new or existing business, which can justify the involvement of public institutions in entrepreneurial training in Nigeria and enhance existing programs.

Based on the responses from public sector trained and untrained entrepreneurs, there was no significant difference between the two groups concerning revenue generation, profitability, job creation, and access to financing. However, the results indicated a significance on unemployment status of trained participants as a predictor of business startup. The negative sign obtained in the data analysis nullified the expectation that participation in a public sector business training will help to create jobs for the unemployed trainees. Overall, the effect of public sector sponsored business training on the studied entrepreneurial outcomes was small or moderate at best.

### **Interpretation of the Findings**

Most of the empirical research on entrepreneurship development has been based on experimental studies with few quasi-experiments. The result of these empirical studies

has been mixed regarding the impact of business training on entrepreneurial outcomes. The same applies to the few evaluations conducted on public sector sponsored entrepreneurship development programs. For instance, Cancino et al. (2015) found that a program in Chile did not impact on the likelihood of the beneficiaries obtaining business loans, which supports the results of this study on Nigeria. However, these results contradict the findings of Swain and Varghese (2014) in India, which suggested that business training increased participants' access to loans.

The current study's results also contradicted previous research that suggested that business training improves business outcomes such as profits (Caldron et al., 2013; De Mel et al., 2014), revenue (Martínez et al., 2013; De Mel et al., 2014; Valdivia, 2015), and employment size (Bruhn et al., 2013). The results of this study indicated that public sector sponsored business training does not enhance participants' ability to start-up business (De Mel et al., 2014; Matricano, 2016; McKenzie, 2017). However, these differing results may be explained by a lack of cohesive public policies impeding entrepreneurial outcomes (Edoho, 2016). Market constraints and structural rigidities can inhibit the effectiveness of public sector programs on entrepreneurship development (Seck, 2017; Uche, 2017). Thus, participant responses can also be supported by the need for public policies that remove constraints to entrepreneurial activities in Nigeria (McKenzie, 2017).

From the conceptual model of this study, it is imperative to note that the result of this study depicts a strong disconnect between program objectives set by public agencies for entrepreneurship development and the program outcomes captured by participants'

expectations. Despite that these interventions were designed to provide and enhance the entrepreneurial skills of the beneficiaries, the inability of the training to provide relevant skill-sets to participants that would enable them to navigate existing business constraints further negate their effectiveness. It, therefore, posits that if the target population (selected beneficiaries) remains the same as the non-beneficiaries, then public institutions must develop the feedback mechanism for the interventions that would capture participants' expectations and realities of the business environment.

### **Limitations of the Study**

As much as possible, most validity issues that affect quasi-experimental designs involving a post-test with a comparison group were handled appropriately in this study. Most importantly, the study was designed to guide public institutions that engage in providing business training to entrepreneurs. Hence, the study design and analysis ensured the generalizability of the result to other public sector programs on entrepreneurship development. The study achieved the generalizability criterion by eliminating the contagion effect of history through the removal of participants that had participated in business training organized by private, foreign, and non-governmental organizations. However, the major limitation of the study remains the inability to compare the relative effectiveness of public institutions versus private sector provision of business training to entrepreneurs in Nigeria. From existing studies in entrepreneurship development, the use of experimental designs remains the 'gold standard', which was a limitation of this study due to the nature of public sector interventions in entrepreneurship development in Nigeria.

### **Recommendations for Future Research**

Based on the outcome of the analysis and review of existing studies on the effectiveness of public sector interventions in entrepreneurship development in Nigeria, the study recommends the following for future research. Current efforts by the Nigerian government to increase private sector participation in the economy has motivated other stakeholders including multilateral and bilateral agencies to follow suit. Thus, as the government through its agencies invests in entrepreneurship development, the international bodies and private operators provide business training and other forms of support to entrepreneurs in the country. It, therefore, becomes imperative for a comparative evaluation of existing public and private sector interventions in entrepreneurship development in Nigeria that would propose a sustainable and effective approach to viable entrepreneurs. Such studies would leverage on the outcome of this research to expand its scope and coverage that would further enhance the generalization of this study in Nigeria.

Current research involving experimental and quasi-experimental designs that study what enhances entrepreneurial outcomes in Nigeria remains scarce. Therefore, there is the need for increased utilization of experimental and quasi-experimental designs involving a pretest and posttest to evaluate public sector sponsored entrepreneurship support programs. Based on the outcome of this study, it would be pertinent for public sector institutions to conduct experimental studies to measure the effectiveness of their interventions before full implementation. Such studies would provide the relevant

information and measurable outcomes from the target beneficiaries of their intervention programs, which helps in the attainment of the policy goals.

### **Implications for Social Change**

Nigerian government at various levels continues to channel a lot of financial and human resources towards entrepreneurship development in the country. However, there is not much to show for it as viable entrepreneurs operating in the country continues to rely on foreign capital for their survival given the structural rigidities existing in the local credit market. Therefore, the major social change implication of this study is that it will engender robust public policies towards enhancing entrepreneurial outcomes by eliminating the structural issues that impede entrepreneurship endeavors in the country. Such policies would help to negate the argument by Naude, Amoros, and Christi (2013) that producing more entrepreneurs does not guarantee higher levels of economic growth and development. Besides, the study will assist public agencies that provide business training to entrepreneurs in fine-tuning their program content to ensure that it provides the beneficiaries enough skill-set to navigate successfully in the Nigerian business environment.

Given that most entrepreneurship studies in Nigeria have not attempted to evaluate public sector interventions in entrepreneurship development, this study sets the pace for subsequent studies in this regard. Specifically, the study will serve as a guide for public institutions that would want to justify government expenditure in providing business training to entrepreneurs and unemployed citizens. Accordingly, the study will serve as an extension of knowledge on the application of the social construction

framework to understudy public policies on entrepreneurship development and the use of the feedback loop in the external control of organizations to engender policy effectiveness in a developing country.

### **Conclusion**

The positive construction of entrepreneurs as an agent of growth and economic development has compelled successive governments in Nigeria to channel resources in sponsoring various intervention programs on entrepreneurship development. With an increasing trend in the number of such programs particularly, the provision of business training, it became expedient to evaluate the effectiveness of these interventions. The post-test comparison group remains a veritable tool for such assessment with the nature of public sector interventions in developing countries. The design has been used in this study to decipher the effect of the business training provided by a public institution on the beneficiaries relative to non-beneficiaries. The discovery that the intervention has not impacted on the recipients indicates ineffectiveness of the intervention and therefore, calls for a more pragmatic approach to influence positive entrepreneurial outcomes. Thus, the expectation that public sector interventions in entrepreneurship development would enhance entrepreneurial outcomes goes at variance with the experience of the participants in this study. In their view, which agrees with scholarly findings (Uche, 2017; Ács & Naudé, 2012), such public sector interventions can only be effective when certain structural rigidities and credits constraints receive adequate attention as part of the collective effort to grow the Nigerian economy.

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## Appendix A: Invitation Letter to Participants

Dear \_\_\_\_\_,

My name is Michael Mba. I am currently a Doctor of Philosophy (PhD) student at Walden University, Minneapolis, U.S.A. working on my dissertation study.

The focus of my research is to evaluate the effectiveness of public sector interventions in entrepreneurship development in Nigeria. This evaluation will measure the impact of the business training provided by public institutions on business outcomes of the beneficiaries such as business turnover, profitability, ease of assessing loans, and ease of business start-up. Therefore, the effectiveness of the intervention programs will be assessed by comparing the business outcomes of the trainees with those of applicants to the programs who were unable to participate.

As  **a participant** or  **an applicant** to one of the business trainings organized by a public agency in Abuja, I am requesting your cooperation to be part of this research study. Your participation in the study will be optional, while your identity and that of your business will be completely anonymous. Your participation would help to improve the effectiveness of these government support programs to entrepreneurs in Nigeria, particularly, in fine-tuning existing ones to enhance their impact on the business of beneficiaries. The effectiveness of these programs would provide more jobs for the youths, reduce poverty, and minimize youth engagement in social vices.

The survey will take about fifteen (15) minutes to complete. You will have a period of two weeks to respond after receiving the questionnaire with a follow-up e-mail or phone call after one week as a reminder that you have seven more days to complete the survey.

If you have any question, please feel free to reach me on [REDACTED] (phone) or e-mail me at [REDACTED]

Thank you.

Michael Mba  
Ph.D. Candidate  
Walden University

## Appendix B: Survey Questionnaire

### Business Trainee Questionnaire

#### Section A: Identification and Demographic Information

1. Have you participated in any business training organized by a government institution?  
 Yes       No
2. Apart from government agencies, have you participated in any business training organized by any other organization (non-government)?  
 Yes       No
3. If Yes to 2 above, what type of organization conducted the training?  
 Private organization     NGO/Non-Profit organization     Foreign organization     Not Applicable
4. What is your gender?     Male       Female
5. What is your age group?  
 Below 15 years     16 – 25       26 – 35       36 – 50       Above 50
6. What is your marital status?  
 Never married       Married       Divorced       Widow/widower
7. Educational level completed:     Never went to school     Primary       Secondary  
 Diploma equivalent     Graduate       Post-graduate
8. What is your language proficiency?  
 Fluent in English only  
 Fluent in English and at least one local language  
 Fluent in local languages only

#### SECTION B: Business Information and Financial Access

9. Do you currently run a business?     Yes       No
10. If yes to 9 above, what is the nature and type of your business? (*Tick the major type*)  
 Manufacturing       Agriculture (crop)     Agriculture (animal)  
 Trading (wholesale or retail)     Services
11. Please, select the type of location of your business:     Urban       Rural       Semi-urban
12. How old is your business? \_\_\_\_\_ years
13. What is the ownership type of your business?  
 Sole proprietor       Partnership agreement       Limited liability company
14. What is the employment size of your business? \_\_\_\_\_ (number of persons)
15. What is the current **monthly revenue** from your business? \_\_\_\_\_ (value in Naira)
16. What is the current **monthly profit** from your business? \_\_\_\_\_ (value in Naira)
17. Have you ever applied for a business loan from a bank or other financial institutions?     Yes     No
18. If Yes in 17 above, was the business loan approved?     Yes       No     Never applied
19. If No in 18 above, what was the main reason for the denial of loan approval? (*please select one*)  
 Lack of business plan       Lack of collateral       Improper documentation  
 No reason stated       Never applied/Loan approved
20. What is the total amount of business loan(s) received and used for your business? ₦ \_\_\_\_\_
21. What are the sources of the loans you obtained for your business? (*tick all that apply*)  
 Commercial/Merchant/Non-Interest banks       Microfinance bank     Cooperative  
 Money Lender       Finance company       Development finance institution

#### SECTION C: Business Training Outcomes

22. Please, select your employment status **before** attending the business training?  
 Employed with government     Employed by private firm     Self-employed

- Unemployed                       Did not attend any business training
23. Were you already running a business before attending the business training?  
 Yes                       No                       Did not attend any business training
24. Please, select your status *after* attending the business training?  
 Started a business immediately after training  
 Looking for funds to start a business  
 Did nothing  
 Applied knowledge from the training to an existing business  
 Did not attend any business training
25. Did you start the business immediately after the training?     Yes                       No  
 Already doing business before training     Did not attend any business training
26. If No in 25 above, how long did you stay after the training before starting a business?  
 Six months                       One year                       More than one year  
 Have not started any business of my own even now  
 Not applicable - Started business immediately after training OR Already doing business  
 Did not attend any business training
27. If Yes in 25 above, how did you source the funds?  
 Own savings                       Support from family & friends     Borrowed from financial institution  
 Received funding from government or training agency  
 Not applicable (Already in business OR Did not start business immediately after training)
28. If you were already in business, how do you rate the performance of your business after training?  
 Declined                       Remain the same                       Improved                       Not into business before training  
 Did not attend any business training
29. Please, provide any useful suggestion that would enhance the effectiveness of government support to entrepreneurs in Nigeria (optional) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

*Thank you for your responses and participation in the survey*

## Appendix C: National Institute of Health Course Certification



## Appendix D: Sample Size Power Analysis using G\* Power 3.1.9.2

