

# Entrepreneurship Innovation and Finance

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**Abstract** The study on entrepreneurship innovation and finance was to investigate the relationship that exists between entrepreneurship innovation and finance in Nigeria, and to understand the effect of finance on the failure of entrepreneurship innovation in Nigeria SMEs, the study tends to contribute to the literature on entrepreneurship innovation in Nigeria. The study explored data obtained from 119 enterprises and financial institutions in Nigeria. The population sample was selected through non-probability sampling method to obtain data from SMEs/MSMEs and financial institutions in Nigeria and accessed using google form. Pearson product correlation and standard multilinear regression from SPSS were used to explore the data to determine the relationship between the defined variables and to predict the impact of the independent variables on the dependent variables. The study findings indicated that there is a low positive significant relationship between finance and entrepreneurship innovation in Nigerian SMEs. Further analysis indicated that major entrepreneurship innovation deficiency in Nigeria SMEs could be attributed to education, which emphasizes the important role of adequate finance and education in entrepreneurship innovation, and performance of entrepreneurial firms in any economy. Furthermore; the study found that there is a positive significant relationship between education and entrepreneurship and negative non-significant relationship between education and innovation in Nigeria. The negative non-significant relationship between education and innovation is an implication of non-productive education, that needs to be addressed to offset the defect/deficit and position Nigeria on the path of general economic growth. The data further showed that finance and long-term credit have the highest impact on entrepreneurship performance in Nigeria. The conclusion of the study will help ease the majority of the challenges often encountered by entrepreneurial firms in Nigeria, mostly at the start-up stage of the enterprises that often lead to failures and inability to compete with other global enterprises.

**Keywords:** *entrepreneurship, innovation, finance, performance, education*

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## 1. Introduction

### 1.1. Overview

Events around the globe has shown how different nations, cultures, and government policies at different levels are trying to remove obstacles to movement of persons, goods, services across national boundaries, each nation compete to gain the greater and marginal share of the global trade through the activities of the different industries in the economy. Enterprises and entrepreneurs compete to introduce products and services that has great influence in and outside the national space, through the introduction and use of processes and strategies that that strategically positions it to the general consumers around the globe. The important part is been able to meet consumers' expectations and demand, satisfying the unmet expectations in the creation of value, and arousing of new demands through them. Enterprises do this by offering products and services or refined old ones at affordable costs through the new found processes and

upgrades. To accomplish these, the enterprises invest in time, resources, and human capital in research and development in the development of new processes, testing, and other activities involved in refining, fine-tuning and introducing of a new product and service offering with remarkable value to the consumers in general. How successful these enterprises are in the processes involved in the creation of new products and values depends on so many variables, notably the finance aspect. The different economic development policies and its effectiveness affects how the activities of these enterprises flows, ineffective financial and economic policies do not only discourage innovativeness and development, but acts as obstacles for any economy to actualize full potential, i.e., when economists would say that an economy is performing below full potential, because the different operating parts of the economy are not been fully employed and utilized.

The level of innovation of the enterprises in an economy, increases the level of economic activities coming from within and outside the borders of the economy, gives the economy opportunity to gain a proportionate percentage of the global trade and increases

the economic welfare and the standard of living of the citizens.

Entrepreneurship innovation creates a new competitive order, disrupts the old system and present the new normal. For innovation to take place different process that involves R&D (research and development) which in turn requires commitment of resources which in most cases are relatively scarce, and time are often employed, the many risks involved in innovation often makes it costly to undertake but profitable and beneficial when its successful. Many innovative enterprises have failed in one or two occasions but that's the price for innovation, nothing good comes easy. Been one of the keys in the innovation activities, access to affordable finance, source of finance, and finance mechanism are some of the major challenges facing many enterprises around the globe, mostly the developing economies. The ability to commit the necessary and the required resources facilitates in conducting the necessary research into product and possible development of products and services that will offer the most value to consumers. In a country like Nigeria, SMEs employ more that 65 percent of the working population, but face the challenges of affordable finance, improved market infrastructure, market, financial and political instability, and the required environment to be innovative and productive. For the past 40 years, different government regimes at different times have introduced programs and grants mechanism for enterprise and entrepreneurship development and growth in Nigeria, which it is most appropriate to say that they have been ineffective or has failed to accomplish the desired and required developmental goals.

In this paper, the study would try to find the possible relationship between finance and entrepreneurship innovation, determine the effect finance and education has on entrepreneurship innovation and performance of enterprises in Nigeria. In chapter 1, we introduced the topic, the background, objective and significance of the study, and stated the research problem, in chapter 2, the study conducted literature reviews and definition of concepts of related topics on the views and findings of other scholars and researchers. In Chapter 3, the method used by the study to collect, explore and analyze data for the study was discussed. In chapter 4, the research results and findings are presented and analyzed, in chapter 5, the research findings are discussed. And finally in chapter 6, we presented the conclusion and recommendations of the study, limitations of the study, and suggestions for future studies/research.

## 1.2. Statement of Problem and Research Question

Entrepreneurial activities in Nigeria employ about 70% of the Nigerian Population making it the highest employer of labor in Nigerian economy. This implies that 70% of Nigerians engage in, and gain employments through MSME/SME activities, and depend on it for survival and wealth. With this percentage of participation in MSME/SME activities, about 60% of Nigerians live below poverty line (live below \$1 per day) according to the world bank. And 6 in 10 startups fail in the first 6 months of operation.

This study tends to find the challenges of financing entrepreneurship innovation and productivity in Nigeria and other developing economies. And to determine the effects of entrepreneurship finance and education on the performance of SMEs and enterprises (entrepreneurs) in Nigeria. Therefore; the research questions are;

- i. Are there enough provisions to support entrepreneurship innovation of Nigerian SMEs?
- ii. Does the current education system in Nigeria equip and support potential entrepreneurs with the relevant skills, exposure on application of knowledge and skills to effect innovation.
- iii. Are the current government economic policies on entrepreneurship empowerment effective on promotion of innovative entrepreneurship in Nigeria.

## 1.3. Objective of the Study

The focus of the study is to contribute to the analysis of entrepreneurial innovation finance, and entrepreneurial growth and development in Nigeria, and other developing economies. The study tends to investigate the influence of education and finance on innovative performance of SMEs and enterprises in Nigeria. The study will equally use data from population sample comprising of enterprises located in Nigeria to analyze the influence the different entrepreneurial programs adopted by different government regimes in Nigeria has on the entrepreneurship and innovation development and growth.

## 1.4. Significance of the Study

The study's conclusion can help in addressing the rate of entrepreneurship failure in Nigeria, the results if adhered to can solve in large part the dependency on importation and increase productivity in the local economy. The study will also have positive effect on the constant inflation caused by the uncertainty in the exchange with foreign currencies, this can be made possible by producing the primary necessities that are not high tech dependent locally, this would relieve the pressure on the Nigerian foreign reserve with reduced demand for foreign exchange for the importation of primary consumables into the economy.

## 2. Definition of Concepts and Literature Review

### 2.1. Definition of Concepts

#### 2.1.1. Entrepreneurship

Entrepreneur and entrepreneurship are two words, in which one refers to an individual/person who takes an action and activities, and the other is the action and the activities. An entrepreneur refers to an individual who engages on economic activities for the purpose of creating and increasing wealth and value, entrepreneurship is the means through which an entrepreneur accomplishes wealth and value creation.

Entrepreneurship is a vehicle of growth and job creation [1]. Entrepreneurship is a process that involves

management concepts and techniques, designing processes and tools, basing activities on training, standardizing products to create value. The entrepreneurial process involves developing and spotting opportunity, mobilizing/gathering resources, managing and building operations, all with the core purpose of creating and offering value and generating profit. Drucker defined entrepreneurship as the shift of resources from areas of low productivity and yield to areas of higher productivity and yield, this partly corresponds to the first known definition of entrepreneurship by J.B Say around 1800, Say in his definition, explained entrepreneurship to shifts economic resources out of an area of lower into an area of higher productivity and greater yield [2], in explaining entrepreneurship, Drucker identified risk been synonymous with every economic activity, and postulated that the essence of every economic activity is the commitment of current resources to future expectations, and that means uncertainty and risk, but continued that if they are moderately successful, the returns should be more than adequate to offset the risks there might be, and equally maintained that entrepreneurship is risky because, only few entrepreneurs know what they are doing [2]. This points to the lack of skills, management education, knowledge of finance mechanisms due to lack of entrepreneurial education.

Different definitions of entrepreneurship often regard entrepreneurship as starting, owning and running a small new business, according to Drucker, not every small business is entrepreneurial or represents entrepreneurship, Drucker continued that all new small businesses have many factors in common, and posits that; to be entrepreneurial, an enterprise has to have special characteristics over and above been new and small. Entrepreneurs create something new, something different, and they change and transform values [2]. Entrepreneurship is a process where people create incremental wealth, and wealth is created by individuals who bear the main risks, in the form of capital, time and commitment to a career risk in terms of providing value to the products or services [3]. Entrepreneurship plays important role in the creation and growth of businesses, as well as in the growth and prosperity of regions and nations [4].

Entrepreneurship is about spotting an opportunity, thinking on the possible means and ways to utilize it, taking necessary and informed actions to convert the opportunity into profit/revenue, through introduction of products and services.

Entrepreneurs act on what they believe is an opportunity, to be an entrepreneur is to act on the possibility that one has identified an opportunity worth pursuing [4]. An entrepreneur is one who creates a new business in the face of risks and uncertainty for the purpose of achieving profit and growth by identifying opportunities and assembling the necessary resources to capitalize on those opportunities [5]. According to Norman M. Scarborough and Jeffrey R. Cornwall, what entrepreneurs have in common is the ability to spot opportunities, and the willingness to capitalize on them. One tenets of entrepreneurship are the ability to create new and useful ideas that solve problems and challenges people face every day [5].

### **2.1.2. Innovation**

“Innovation is one of the most important fundamental processes underpinning economic growth, the driver of growth in output per unit of labor and capital invested, and an important basis for developing solutions to economic and social challenges” [6]. “Innovation facilitates how SMEs respond to changes in the market and maintain their competitive advantage” [7].

Innovation was described by J.B. Say in 1800, as a word derived from Latin which means the introduction of something new to the existing world and the order of things or the improvement of resources’ productivity, quoted by Peter F. Drucker [2]. Innovation gives or is the ability of seen things in the same way as others, but creatively thinking about it differently in ways to improve its utility. Innovation is the creative process of changing, creating and introducing new products and services, and value offering of a product, it is the engine of growth and development for entrepreneurship, economic scholars like Joseph Schumpeter referred to innovation as a “creative destruction”, where there is a constant search to create something new which simultaneously destroys the old rules and establishes new ones, all driven by the search for a new source of profits. It is the secret weapon of entrepreneurship for creating value in the marketplace. Innovation employs creativity in the thinking process of how to solve the market challenges and applying the creative solutions to solve the problems and exploit the opportunities. Innovation today is not mostly about destroying the old, but modification to suit the current demand and wealth creation. The idea that the birth of something new is founded on the destruction of previous existence is an old one [8]. Innovation is already an important driver of growth in some countries. Firms in OECD countries now invest as much in intangible assets, such as research and development (R&D), software, databases, and skills, as in physical capital, such as equipment or structures [6]. OECD defines innovation as the implementation of a new or significantly improved product (goods or services), or a new process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. The creation of new business ventures and innovation in existing small and medium-sized enterprises (SMEs) are critical parts of today’s innovation process, and should take a central place in government strategies to promote innovation [9]. Innovation plays a key role in the economy and society by contributing to growth and jobs and helping address social and environmental challenges. Innovation is a special instrument employed by entrepreneurs to achieve success by creating value in the market place when they combine resources in new and different ways to gain competitive advantage over rivals [5]. Peter F. Drucker, referred to innovation as the basic instrument of entrepreneurship, and as the act that endows resources with new capacity to create wealth. According to Drucker, there is no such thing as resource until man finds a use for something in nature and endows it with economic value, until then every plant is a weed and every mineral is just a rock [2], innovation changed calculators into computers we use today. Drucker went further to state that whatever changes the wealth-producing potential of already existing resources constitute innovation [2].

“Innovation is an expensive process; significant resources must be expended to initiate, direct, and sustain it. It is a process that takes time which means that the resources that support it must be committed until the process is complete” [10]. Innovation is driven by entrepreneurship, a potent mixture of vision, passion, energy, enthusiasm, insight, judgement, and plain handwork which enables good ideas to come to reality [11], according to John Bessant and Joe Tidd, innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or service [11], John Bessant and Joe Tidd further posits that many SMEs/entrepreneurs fail because they don't see or recognize the need for change. Innovation is about connecting, not inventing. It is about taking the pieces that are already out there and finding ways to put them together in combinations and bring them to people who have never seen them before [12]. Innovation is the creation of better or more effective products, processes, services, or ideas (technologies) that are accepted by users (desirability), and proposed at the right time according to governments and society [12]. Jan Fagerberg, while trying to distinguish innovation from invention, described invention as first occurrence of an idea for a product or process, while innovation is the first attempt to carry it out into practice [13]. According to the study by Howard Van Auken, Antonia Madrid-Guijarro, Domingo Garcia Perez-de-Lema (2008), on “Innovation and performance in Spanish manufacturing SMEs”, which investigated 1,091 Spanish SMEs, found that innovation positively impacts performance of SMEs in low and high-tech industries, and that innovation is essential in achieving competitive advantage to high-tech firms than low-tech firms [7]. Across the globe in 21<sup>st</sup> century, innovation remains the primary source of economic growth as world economies continue to merge and different trade barriers continues to be eased, having the ability utilize innovative ideas in the economy to promote process, production, and introduction of goods and services at all sectors of the economy, not only positively affect economic growth, but positions the economy towards global economic dominance, through the control of the global market space. A 2013 study on “Innovation, Entrepreneurship, and economic growth”, by Miguel Angel Galindo, Maria-Teresa Mendez-Picazo, found that innovation plays a central role in economic growth process, and entrepreneurship is the vehicle to introduce the new technologies to improve the firms' activities and to obtain higher profits [14]. A study on “The effects of innovation on business performance”, which focused on SMEs in Indonesia, by Erna Herlinawati and Amir Machmud (2020), found that innovation has a positive significant effect on performance of SMEs, and suggested that performance of SMEs can be improved through; product innovation, process innovation, and distribution innovation [15]. Innovation is the engine the propels entrepreneurial activities, and increasing the innovative capacity obtained in an economy increases wealth creation and competitiveness of firms in the economy/nation. Study by Yahya Al-Ansari, Simon Pervan, Jun Xu (2013), on “Innovation and Business Performance of SMEs”, a case study of Dubai, which used data from 200 SMEs, found that there is a significant

positive link between innovation and business performance [16].

### 2.1.3. Finance

The financial system includes all financial intermediaries that operate in the financial sector of an economy. The finance system/institutions are one of the most important sectors of the economy of any nation and of the global environment and economy, the more stable the activities of the finance mechanism in an economy the more stable the economic activities. One can borrow a leaf from the instability caused by the financial crisis of 2008 and its impact across the globe.

Finance institution in Nigeria has gone through various reforms recent years, such as mergers and acquisition to position it to better serve the economy. According to CBN, Nigeria financial system includes financial markets (money and capital markets) financial institutions including the regulatory and supervisory authorities, development finance institutions (Urban Development Bank, Nigerian Agricultural and Rural Cooperative Banks), and other finance institutions (insurance companies, pension funds, finance companies, Bureau de Change, and primary Mortgage institutions), among others [17]. The financial system provides an enabling environment for economic growth and development, productive activity, financial intermediation, capital formation and management of the payments system. The primary role of finance system in any economy/nation is to enhance economic performance of the players in the economy, by improving the overall welfare of the people. It provides a platform for financial infrastructure to allocate resources to sectors, individuals/units that are potentially more productive to invest those resources. In Nigeria, the Bank of industry (BOI), and Bank of Agriculture (BOA) also known as Nigeria Agricultural Cooperative and Rural Development bank (NACRDB). while the BOA primary purpose is to ensure effective funding and financial services to the agricultural sector to support and sustain the sector for Nigeria economic development. The BOI was designed and established to provide long term funding and finance to the industrial sector of the economy. This is focused on increasing local output, generating and increasing employment, and diversifying the revenue base of the economy. The Nigerian financial system consists of formal and informal sectors, the formal sector includes banks and non-bank financial institutions, the informal sector consists of savings associations such as savings and loans associations, local money lenders, etc...

Entrepreneurship and innovation financing involve the mechanisms for funding and supporting entrepreneurial ventures/enterprises (SMEs, MSMEs) from their inception/start-up to the maturity stage. Entrepreneurship innovation financing are a strategy of encouraging productivity, innovativeness and increase in the employment rate in any economy. One of the key factors influencing the potential success of innovation is that of providing adequate sources of financing during the whole 12L (idea to launch) process of entrepreneurship innovation, available financial sources enable companies to conduct innovation activities in general (R&D and non-

R&D activities), as well as bring the output of the process to the market [18]. Entrepreneurial finance refers to the multi-layered funding spectrum that includes formal and informal funding windows available and accessible by the entrepreneur [19]. In 21st century, entrepreneurship requires innovative financing, which can provide the necessary funding faster at a relatively low cost. Access to finance is a central issue for both innovative entrepreneurs and policy makers [20], Entrepreneurial start-ups and SMEs face financial constraints largely because of their inherent riskiness and weaknesses.

Access to finance is a key constraint for business-led innovation, which is inherently risky and may require a long-term horizon [6]. OECD 2014 stated that access to financing is crucial for creating and growing an innovative business, especially at the seed and early stages, and further pointed the different sources of financing for entrepreneurship start-ups which includes; founder's own funds (plus money from friends and family), bank loans, equity capital (including from business angels and venture capitalists) and government support [21].

#### **2.1.4. Performance**

This refers to how the activities of enterprises in an economy reflect on the economic outlook and the productivity ratio of the nation. Performance of enterprises reflects on the number of innovations and innovative products and services originating or obtained in an economy. Entrepreneurship and innovation performance can equally be measured by the level of competitiveness of products and services output from any given economy. Accurate performance measurement is critical to understanding new venture and small business success and failure [22]. Entrepreneurial performance is the level of achievement of the entrepreneur in running the business enterprise, Sometimes the achievement may be measured by the number of employees, level of profit and sales volume among other things [23].

Performance can be measured with financial or operational (non-financial) indicators. Financial indicators are related to economic factors and consist of such indicators as return on assets, return on equity, and return on sales [24].

#### **2.1.5. Education**

Entrepreneurship education provides entrepreneurs, students and individuals with the desired skills, knowledge, and motivation to encourage entrepreneurial success. The purpose for this is to prepare entrepreneurs on different aspects of management and running entrepreneurial ventures, challenges and risks, and the technical knowhow on how to mitigate them for sustainability. Entrepreneurship education has the mandate to equip the youth with functional knowledge and skill to build up their character, attitude and vision [25]. Entrepreneurship training has been identified as a major contributor to small and micro enterprises' skills development and performance [26]. Entrepreneurship education in universities is mainly based on the cultivation of innovative and entrepreneurial talents to accelerate the change of employment concepts of college students, improve their employment and entrepreneurship, and meet

the needs of talents for local economic construction and development [27].

According to OECD, effective education and training system is a precondition to high-quality employment, skilled workforce makes it easier to innovate and adopt new technologies and work organization practices, thereby boosting productivity and growth [28]. The education and training of potential entrepreneurs is paramount for future innovativeness and productivity.

Nigeria R&D expenditure as a share of the GDP as of 2007 data is 0.1 [29]. When compared to data from early 1970s, it shows a huge decline in prioritizing of education in Nigeria over the last 4 decades. Nigerian expenditure on education as a share of the GDP was 3.2 and 3.1% between 1974 and 1975, when compared to recent data of 0.1, it shows a troubling decline in education priority financing by the in Nigerian Government. World data atlas shows from 1991 to 2018, that Nigeria's expenditure on education is 0.9% share of the GNI (Gross National Income) [30]. The empirical study by Carolina Lopez Nicolas, Angel L. Merono Cerdan in 2011, on strategic knowledge management, innovation and performance, which consisted of 310 Spanish organizations found that knowledge management impacts on innovation and organizational performance directly and indirectly. Emphasizing the importance of engaging the academic institution in the economy or of any nation, to enhance innovation capacity and productivity [31]. A 2019 study by Won Joon Kim, Tran Viet Hoi, La Ngoc Tuan, Nguyen Ngoc Trung, on "R&D, training and accessibility to finance for innovation: a case of Vietnam, the country in transition", found that R&D played key role in innovative activities, and that formal training within businesses has very strong and significant effect on innovation [32].

## **2.2. Entrepreneurship Innovation and Finance**

Governments around the globe after discovering the roles MSMEs and SMEs play in the economy, and how their activities contribute to the reduction of unemployment rate and increase in economic activities, has been developing programs and making policies towards the advancement of SMEs' capabilities. Enterprise/SMEs development in Nigeria faces numerous challenges that forestalls growth, productivity, and performance, "The need for SMEs growth in Nigeria is beyond question, but access to finance is one of the factors standing on the way of its growth [33]. SME in Nigeria has a long way to go for it to be relevant and play its crucial role in contributing to growth and development of the country [34].

Across many developing countries and economies around the globe, financing entrepreneurial activities for innovative products is a major challenge as many entrepreneurs and enterprises struggle to access the necessary funds to finance R&D activities into new and improved products, and enterprises in Nigeria are not exceptional from these challenges. "Small and Medium-Sized Enterprises face many obstacles when they try to access the credit market" [35]. Access to finance is crucial for creating and growing innovative business, particularly

at seed and early stage [21]. SMEs and start-ups are typically limited in their capacity to access credit because of collateralization, limited or no credit history, and often lack of expertise needed to produce sophisticated financial statements [36].

Radul Milutinovic, Sladana Benkovi, Biljana Stosic, in their study “the review of external source of innovation financing in 2018”, noted that it is important for companies to have access to different funds of innovation financing, and considering the significance of innovation for competitiveness, growth and development, external sources of financing within the adequate market should be identified and addressed [18]. This goes in line with earlier statement that majority of local entrepreneur lacks adequate information on the different finance mechanisms, programs and policies for entrepreneurship innovation.

Imhonopi, D., Urim, U. M., & Ajayi, M. P., in their study on “Increasing the access of women entrepreneurs to finance in Nigeria”, concluded that Increasing access to finance for women-owned or operated businesses is a sound strategy for financial institutions if they are to establish a foothold in the SME space, and proposed supporting women entrepreneurs by means of training and granting financial support is a key step to take towards guaranteeing the contribution of women to national economic development [37]. In the study, Imhonopi, D., Urim, U. M., & Ajayi, M. P., identified, lack of startup capital and lack of awareness of finance as among the challenges faced by women entrepreneurship in Nigeria, which are equally among general challenges of entrepreneurship development and growth in Nigeria and equally in line with the points raised in this study.

Ugochukwu Moses Urim, David Imhonopi, in their study on “Operationalizing Financing Windows for Entrepreneurship Development in Nigeria”, Concluded that Government should reduce the red tape for early-stage companies to access government funding in order to provide ‘softer’ sources of financing for startup entrepreneurs. Government should expand/initiate local angel investing ecosystems to ensure the availability of the most appropriate type of funding for start-ups, especially for entrepreneurs who lack the network of friends and family that traditionally play this role. As a corollary, tax and other incentives should be provided to formal, as well as informal (including friends and family), to increase easy access to funding, Ugochukwu Moses Urim, David Imhonopi, proposed the creation of an SME Equity Bank that could further help to increase access cheap funds by entrepreneurial firms for their start-up ventures, and government and its private sector allies should strive to close the information gap regarding entrepreneurs’ knowledge about possible sources of funding outside banking systems [19].

This is also in line with points raised earlier in this study on the lack of awareness of finance sources and mechanisms for funding entrepreneurial activities by entrepreneurs in Nigeria.

Financing is of vital importance for innovation, especially at the seed and early stages of business development. Therefore, access to finance may be considered as a crucial point for both innovative entrepreneurs and policymakers, [18]. It is very important

for the entrepreneurs and companies to have access to different funds of innovation financing.

Without adequate funding the best dream will fiddle away and innovations will have still-birth, finance is the grease that nurtures innovation to fruition. It is an essential ingredient to business success, Akinola in 2013/2014, pointed out that, there can’t be any significant success by entrepreneurs except with availability of finance, the paper which focused on appropriate finance strategies for entrepreneurs concluded that for short term funding, that the most appropriate should be funds that repayment will be conducted with less than three hundred and sixty-five days, while capital projects should be financed by fund with maturity period over three years [38].

2020 study by Xiaokui Wang on “Enhancing the Effectiveness of Entrepreneurship Education with Entrepreneurship Practice as a Carrier”, pointed out that insufficient allocation and utilization of resources in entrepreneurial education in colleges and universities has led to a lack of adequate support for entrepreneurs’ education development. Xiaokui Wang further elaborated that the effective development of entrepreneurship education in colleges and universities not only requires the establishment of comprehensive education models and teaching systems, but combines continuous innovation of the content and methods of entrepreneurship education to enhance the effectiveness of entrepreneurship education [27].

Innovative financing which is a good financing mechanism for aspiring innovative SMEs, and other corporations has been a very popular medium of funding in developed countries and economies, same cannot be said about developing economies/countries. Innovative financing which involves non-traditional financing mechanism according to Ibrahim Abdel Gelil 2018, is a term used in describing financing approaches addressing development issues that are insufficiently addressed by traditional aid flows and which may try to leverage additional financing and/or attempt to provide financing more quickly, efficiently and with more reliable and greater impact [39]. Low-cost innovative financing has been and is often through different funding/fund raising platforms, but this does not work well or at all in developing countries.

The study by Meghana Ayyagari, Asli Demircuc-Kunt, and Vojislav Maksimovic in 2011, on “Firm Innovation in Emerging Markets: The Role of Finance, Governance, and Competition”, which investigated 19,000 firms across 47 countries found that access to external finance is associated with greater firm innovation, and that highly educated managers, ownership by families, individuals and managers, and exposure to foreign competition is associated with firm innovation [40]. 2019 study by Nirosha Hewa Wellalage, Viviana Fernandez on “Innovation and Finance, Evidence from developing countries”, consisting of 13,430 samples across Eastern Europe and Central Asian countries, found a positive relationship between formal finance and product and process innovation [41]. SMEs play a vital role in economic development, they offer the most economical use of capital in relation to job creation and provide the strongest channel for development and innovation [42].

Vasilescu in the 2014 study “Accessing Finance for innovative EU SMEs; Key drivers and Challenges” pointed out that; access to finance is a key determinant for business start-up, development and growth for SMEs, including the innovative ones, and they have different needs and face different challenges, and further stated that the limited market power, lack of management skills, absence of adequate accounting records and insufficient assets, transaction costs and lack of collateral, all tend to increase the risk profile of SMEs [42]. This study pointed out the major primary challenge of entrepreneurs or SMEs around the globe “Finance and Education”, which if it could be tackled by emerging and developing economies will go a long way in solving most of the economic challenges faced around the globe, and concluded that the survival of SMEs is base mostly on the financial measures and opportunities offered to them. According to Robert G. King and Ross, Levine “Better financial systems improve the probability of successful innovation and thereby accelerate economic growth. Similarly, financial sector distortions reduce the rate of economic growth by reducing the rate of innovation. A broad battery of evidence suggests that financial systems are important for productivity growth and economic development” [43]. Financial policies adhered by the financial institutions in the economy help in easing access to finance of the innovative prospective entrepreneurs. This encourages risk taking in designing better processes, products and services obtained in the economy, this also equips the financial institutions on risk management rather that avoid risk and remain stagnant.

### **2.3. Entrepreneurship Development and Innovation in Nigeria.**

Entrepreneurship innovation and development in Nigeria for years has been riding through the rough waters frequently caused by market instability caused by fluctuations in the foreign exchange, political instability caused by different change of government, economic instability caused by unstable government economic policies, and social instability aided by noninstitutionalized social and developmental policies. Since 1970s after the Nigerian civil war and the introduction of the social adjustment programs and indigenization programs of 1978, there has been many programs initiated by different government regimes to promote and facilitate entrepreneurship in Nigeria, owing to lack of adequate institutions or these programs been institutionalized, they have failed to yield the desired and adequate results, as new government comes in, it discards the policies adopted by old regime without proffering a viable programs to mitigate the already existing policy. “SMEs have played and continue to play significant roles in the growth, development and industrialization of many economies around the globe, but in the case of Nigeria, SMEs have performed below expectation due to a combination of problems which ranges from attitude and habits of SMEs themselves through environmental related factors, instability of governments and frequent government policy changes etc.” [44].

The federal government’s transformation agender recognizes private sector development as the main engine

of economic growth and includes bold investment reforms [45]. The key to a productive economy is its ability to commit resources to research and development (R&D) and converting it into products and services (commercialization) to increase the productivity (performance) of the industries in the economy. The lack of any known institutionalized policies on research and development R&D, established finance and support from government doesn’t only make it difficult for scientists, researchers, and entrepreneurs to conduct researches, and innovative production activities, but also hinders productivity in the mass population, as the country only focuses on importation and outside sourcing of all the intellectual and commodity needs in the economy, Achimugu Joseph, researcher of applied chemistry at Kogi state university Nigeria, Amos Wando, A senior lecturer at the department of food science and technology, University of Agriculture, Makurdi, while commenting on R&D commercialization in Nigeria by Minister of science and technology, Ogbonnaya Onu, identified lack of funding for R&D as the main challenge facing R&D development in Nigeria, Amos Wando in his words, pointed out that researchers in different institutions in Nigeria lack access to funding to undertake quality research (R&D) [46].

Majority of the SME programs and initiative ranging from SAP, Youwin, Yesprogram, and trader money of recent, have all been focused on employment but not on productivity, and they have failed to solve the core challenges facing the nation. These programs at worst are unregulated and always face misappropriation and regularly used for the purpose of popularity and vote buying during elections.

There are currently no viable innovation policy programs that is R&D oriented channeled towards entrepreneurship innovation for creativity productivity. Among other challenges faced by entrepreneurs/companies in Nigeria, the most notable is lack of information on the different finance mechanisms, programs, and government policies towards entrepreneurship innovation, majority of the local entrepreneurs have no knowledge on how to access them.

The development of a robust SME sector is vital for job creation, poverty reduction, and wealth creation in Nigeria. According to 2009 CGAP report on access to finance in Nigeria, only a small number of people are formally employed (4.5 million out of 41.5 million working Nigerians). In addition, under-employment is estimated at 70.5 percent, while unemployment peaks at 60 percent among young people [47]. The issues facing entrepreneurship development and entrepreneurship innovation in Nigeria emanates from different areas that limits the success rate or the success of start-ups and innovative start-ups in Nigeria. A 2017 study by Okere E.A., which assessed the influence of the environment on entrepreneurship development in Nigeria, found that limited power supply, bad road network, poor rail transport system, water, transport, insecurity, high interest rate, inflation among others are the causes of adverse business environment in Nigeria [48].

#### **2.3.1. Challenges of Entrepreneurship Innovation Finance in Nigeria**

Entrepreneurship innovation is highly dependent on, “finance and human capital (education)”, any short in the

availability and supply of these two variables, would affect the activities of entrepreneurs and equally affect the performance of the economy.

- a. Lack of access to affordable finance: the cost of financing SMEs operations is major factor in SMEs/MSMEs activities in Nigeria. Financial institutions' credit/loan applications are one of the most rigorous as could be found in many African and other developing countries across the globe, the collateral requirements are often beyond the capabilities of potential innovative applicants. Majority of genuine government grants a mostly in agriculture and often difficult to access by innovative industrialized farmers. Many start-ups and enterprises often go bankrupt due to the cost of financing their debts/loans obtained through third parties and financial institutions at a relatively high cost. Third party credit facilities are easy to obtain in Nigeria but mostly at a relatively higher cost or interest rate, entrepreneurs turn to these credit providers because they cannot use the proper channel of the financial institutions.
- b. Lack of information on the different entrepreneurship finance schemes in Nigeria: There are certain financing mechanisms established in Nigeria to help fund business operations in Nigeria, like the Bank of industry (BOI) and others, the major challenge with these banks is there is no adequate information on their operations and how they operate for the benefit of average Nigerian entrepreneurs. Financing business operations could be done in different ways (venture capital, business angels etc.) in fact, business operations at different stages during the life cycle of the business, require different financing mechanisms in order to ensure successful operations. Crowdfunding is a notable financing channel in 21<sup>st</sup> century, that has worked well in developed nations but yet to be leveraged by developing nations to mitigate the finance challenges affecting and frustrating entrepreneurship innovation. IPO (initial public offering), has been a notable finance mechanism that is well reorganized for funding big enterprises in developed nations and developing nations too, majority of SMEs in developing nations around the world (Nigeria to be precise) often lack the capacity to go public, mostly due to lack of information or the required training on the procedures of utilizing IPO opportunities.
- c. Lack of adequate collateral for processing loans: As is notable applicable in almost every nation around the world, collateral for loans ranges from Landed properties and other high value assets, while the nations around the world are easing the regulations on collateral for loans to encourage increased entrepreneurial activities and productivity, the collateral demand of high value assets, that are often not at the disposal of the applicants, hinders the possibility of successful acquisition of credit facilities from the financial institutions to facilitate entrepreneurship innovation and productivity in Nigeria.
- d. Lack of adequate financial management: A major issue is been able to manage the financial assets

available to entrepreneurs to run a business operation. Inability to keep proper financial records, management, and others transaction and operational records make it impossible for most SMEs/MSMEs to understand the direction of their operations and equally impossible for their credit facility/loan applications at the financial institutions to be considered. This challenge directly points to education and training, which if could addressed could solve part of the numerous challenges faced by SMEs in Nigeria.

- e. Uncertainty of profit generation: This is attributed to serious infrastructural deficiency that ranges from transportation to power supply. It's not a new thing or a news that it costs less to move products from more that 2000km from another country to Nigeria, but costs more than 3 times the cost to move such commodity from one section of the country to another due lack of road and transportation infrastructure. The cost of producing one product in Nigeria without calculating human labor makes it impossible to produce any commodity in Nigeria and compete with foreign products imported into Nigeria, this is due to the cost of electricity generation in Nigeria which is often individually generated at a very high cost using power generating sets. The uncertainty of profit generation equally discourages revenue-based finance providers (RBF), due to the uncertainty surrounding the business operations, possibility of generating adequate revenue expected by the fund providers due to the actual cost of production when compared to similar products when imported from outside Nigeria.
- f. Legal challenges and Uncertainty of government policies: This relates to intellectual property, and patent rights, transaction disputes, and rubber stamp control and monopoly in certain industries that could perform better is allowed to compete with the open market and entrance by more innovative enterprises. The time and cost of settling a transaction/business dispute, makes it impossible discourages conflicting parties from using proper channels to settle operational disputes, thereby creating a huge gap in the system.
- g. Inadequate market competition regulation.

## 2.4. Study Model and Hypothesis

The purpose and focus of the study are to investigate the relationship between entrepreneurship, innovation, education, performance, and finance. Therefore, the independent variables of the study are finance, credit, and education, while dependent variables are entrepreneurship, innovation, and performance.

H1: There is a relationship between finance and entrepreneurship.

H2: Availability of adequate funding for R&D for innovation, results in the introduction of new and modified products and services, which increases the output and quality of products and services offerings. This can simply indicate that lack of adequate funding for R&D and innovation has a negative effect on the productivity

and competitiveness of local enterprises or enterprises in an economy. Therefore; There is a significant relationship between finance and innovation.

H3: Adequately financed entrepreneurial venture would develop and increase in capacity, evolve and compete in any market environment. Therefore; there is a significant relationship between finance and performance.

H4: Knowledge of the different means of sourcing and financing entrepreneurship enhances the potentials of aspiring innovative enterprises, adequate education on entrepreneurship innovative financing mechanisms helps in keeping different industries in the economy stable. Therefore; there is a significant relationship between education and entrepreneurship.

H5: The ability of innovative entrepreneurs to develop the capacity to create ideas, modify and produce new products and services, new skills and improved standard training are required to equip and prepare the potential innovators. Therefore, there is a significant relationship between education and innovation.

H6: High skills in technical and scientific capability enhances products and services and the management output of entrepreneurs. Therefore; There is a significant relationship between education and performance.

H7: There is a relationship between credit and entrepreneurship.

H8: There is a relationship between credit and innovation.

H9: there is a relationship between credit and performance.

H10: There is a significant impact of finance on entrepreneurship.

H11: There is a significant impact of credit on entrepreneurship.

H12: There is a significant impact of education on entrepreneurship.

H13: There is a significant impact of finance on innovation.

H14: There is a significant impact of credit on innovation.

H15: There is a significant impact of education on innovation.

H16: There is a significant impact of finance on performance.

H17: There is a significant impact of credit on performance.

H18: There is impact of education on performance.

Figure 1: shows the productive entrepreneurship, which illustrate that productive entrepreneurship should start with adequate education which equips potential entrepreneurs with the required and desired skills to operate a successful corporation (human capital/capacity building). To meet current, and create demand in the economy, emerging enterprises creatively applies the acquired knowledge and skill in designing, changing, construct, and introducing new products and services, and modifying the already existing products and services by employing different innovation processes. The application of the education and skills materializes in the launch of new enterprise, with different capabilities to meet the different demands in an economy and creating potential employment and wealth. The innovation process would demand the commitment of resources within the enterprise and outside, in the research and development processes (R&D), hiring of qualified personnel and skilled

workforce, and the acquisition of the technology required, majority of which is not available within the enterprise (need to be outsourced) in the form of credits and tech transfer, research grants or entrepreneurship grants.

Successful R&D gives birth to new capability of products and services' offerings of the enterprises, thereby generating high performance of the product and services coming from the economy.

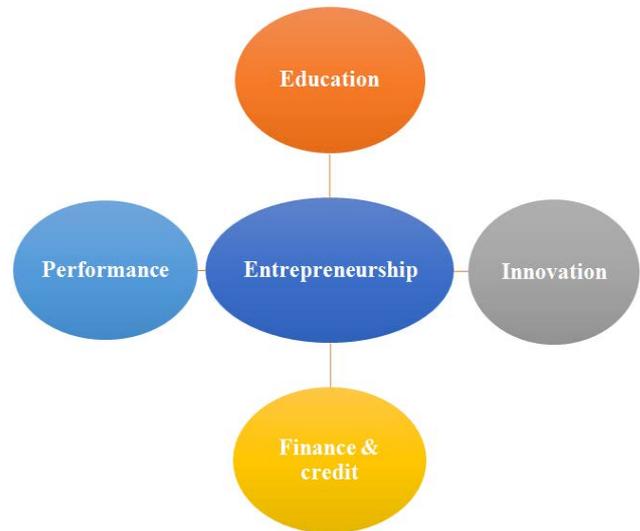


Figure 1. Productive entrepreneurship (Source: From the research)

### 3. Research Methodology

#### 3.1. Methodology

This study uses quantitative and qualitative data for the purpose of getting the required results, and employed descriptive and analytical approach in dealing with the obtained data. This approach is based on description of the study population and collection of real data from the population through a designed questionnaire in order to test hypotheses and to achieve objectives of the study. The questionnaire was distributed to collect data; this method is considered an appropriate method and less expensive than many others.

#### 3.2. Study Population and Sample

The study is on entrepreneurship innovation and finance, with Nigeria as the case study. Nigeria as the case study, the study used non-probability sampling method to select the population sample for the study, the population of the study consists of registered SMEs/MSMEs, and finance institutions in Nigeria. The sample include enterprise owners, and staff in the banking and finance institutions in Nigeria. The enterprises and individuals selected are based on their availability and willingness to participate in the study, and not every enterprise and financial institution has a chance of being included as not all are accessible. This sampling technique was chosen because it is easier and cheaper to obtain data, and can help in generating the desired data to conclude the study, since the study is not financed or sponsored by any external body.

### 3.3. Study Tools and Survey Validation

#### 3.3.1. Study Tools

The data for this study was obtained through designed questionnaires sent to respondents.

The research questionnaire was designed using google form, Google form was used because of the location where the data required is coming from (Nigeria), and given that the research is not financially sponsored, google forms is a free data collection platform that presents the data in spread sheet excel form, making it more convenient for extraction to run analysis.

The form was sent to respondents by email, and also, given the versatile nature of the google form, the form was also sent to respondents through their Facebook messenger and WhatsApp messenger.

The data obtained from the questionnaire was analyzed using IBMSPSS.

IBMSPSS statistical software is a platform which

offers advanced statistical analysis, a vast library of machine learning algorithms, text analysis, open-source extensibility, integration with big data and seamless deployment into applications.

SPSS was chosen for the analysis because of its ease of use, flexibility, and scalability which makes it accessible to users and researchers of all skill levels, and SPSS is suitable for projects of all sizes and levels of complexity, and can help researchers and organizations find new opportunities, improve efficiency, and minimize risk.

SPSS software is often used for descriptive and predictive analysis, and would be useful in the descriptive analysis of the data obtained from the questionnaire.

#### 3.3.2. Survey Validation

The survey/questionnaire validation was done by consulting lecturers and Professors, and after their positive response confirmed the questionnaire to be standard to extract sufficient data to complete the study.

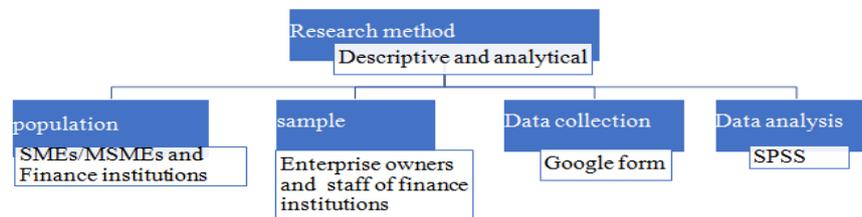


Figure 2. Research method

## 4. Research Results and Findings

### 4.1. Descriptive Statistics

The sample of SMEs and MSMEs in Nigeria consisted of 78 male (65.5%), 41 female (34.5) respondents (N=119).

The average age of respondents is “Mean=1.57”, which according to the data age range, ranges from 31 to 40 years (SD=0.708). Table 1, Shows the frequency distribution for gender. Figure 3, displays the frequency allocation of gender in percentages.

The respondents have the minimum age of 1, and maximum age of 4, the average age of the respondents is Mean = 1.57 (SD= 0.708) (N=119). The 119 respondents from the sample are spread through different sectors, 10% are in the Healthcare, 11.8% in Banking and finance, 21.0% in industrial sector, 10.9% in information technology, 8.4% in Real estate, 5.9% in material sector, 5.9% Utilities, and 26.1% in Retail. The

data showed that 58.8% of the respondents have worked in the respective industry for less than 5 years, 39.5% for 11 to 20 years, and 1.7% have operated for more than 21 years.

The data also showed that average working position of the respondents surveyed is 2.55 (SD=1.630). Furthermore, education data indicated that average respondent in the sample is a college/university degree holder (Mean = 2.01, SD=0.644). The average operating capital of the surveyed SMEs and MSMEs in the sample is 20 million (mean =1.45, SD=0.861). Table 2 and Figure 4, shows the distribution of the demographic variables.

Table 1. Frequency distribution for gender

Gender	Frequency	Percent
Male	78	65.5
Female	41	34.5
Total	119	100.0

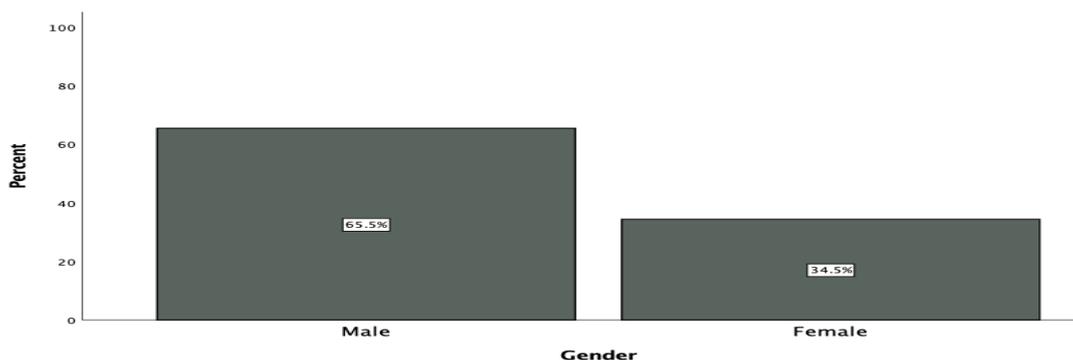


Figure 3. Frequency distribution for gender in percentages

Table 2. Demographic variables.

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	119	1	2	1.34	0.477
Age group	119	1	4	1.57	0.708
Academic qualification	119	1	4	2.01	0.644
Sector	119	1	8	4.67	2.491
Capital	119	1	4	1.45	0.861
Current position	119	1	5	2.55	1.630
Time in the industry	119	1	4	1.84	1.017

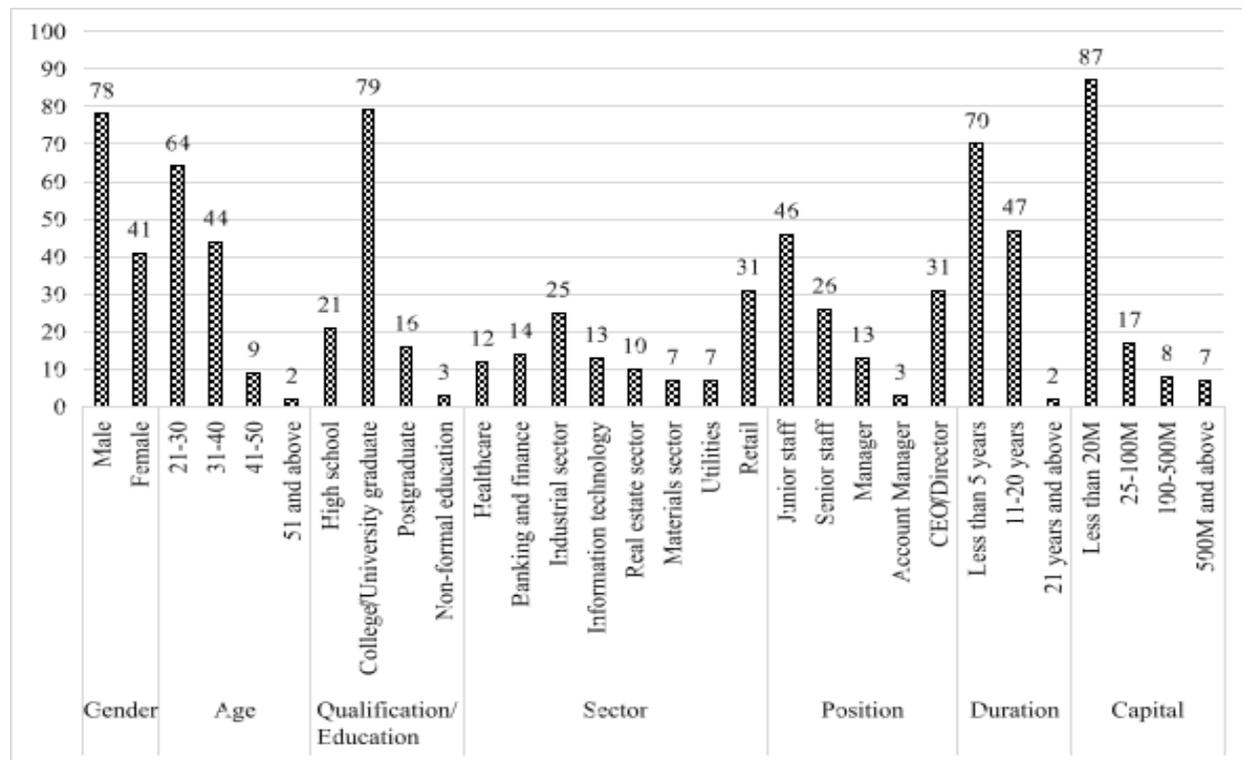


Figure 4. Demographic variables

The descriptive statistics for entrepreneurship showed an overall mean score of 1.99% (SD=0.181), which shows the negative perception of entrepreneurship development/start-up in Nigeria. EPT2 (Start-up capital by government support initiative and programs) has the highest mean score of 1.69 (SD = 0.465), indicating that the surveyed SMEs/MSMEs had no start-up capital raised through government support initiative and programs. This answers research question 1 (Are there enough provisions to support entrepreneurship innovation of Nigerian SMEs?).

The descriptive statistics for innovation showed overall means score of 3.00 (SD = .602), showing that the respondent neither agree or disagree on the effects no finance on innovation. IVT4 (Skilled labor force is a very important factor in innovation) has the highest mean score 4.05 (SD=1.178), indicating the importance of education in technically and skillfully equipping aspiring and potential entrepreneurs.

Performance data show overall mean score of 4.15 (SD = 0.492), indicating the respondents in the sample agree that finance affects the performance of entrepreneurs in Nigeria. PFM2 (Lack of appropriate financing affects innovative performance of Nigerian enterprises), has the highest mean score 4.20(SD=0.754),

indicating that lack of appropriate financing is a challenge for Nigerian enterprises.

Descriptive statistics for finance show overall mean score of 4.06 (SD0.486), which showed a positive response of respondents on the importance of financing on entrepreneurship development. FNC2 (Adequate financing is vital for innovative business enterprises to thrive), has the highest mean score 4.27 (SD = 1.014) indicating that for innovative enterprises in an economy to thrive, adequate financial support is need.

The descriptive statistics for Credit show overall mean score of 3.92 (SD = 0.593), indicating that there are no accessible credit facilities for start-up enterprises in Nigeria. CDT2 (Interest rate is too high), has the highest mean score, indicating the impossibility of successfully utilizing any credit facility from financial institutions in Nigeria for the purpose of innovation.

The descriptive statistics for education show overall mean score of 2.13 (SD = 0.180), indicating that the respondents are negative about entrepreneurship education in Nigeria. EDT2 (Have no entrepreneurship education) has the highest mean score of EDT2 = 1.68 (SD=0.468), which shows the effects of education on innovation and other variables that enhance entrepreneurship innovation.

**Table 3. Descriptive statistics of variables**

Items	N	Mean	Std. Deviation
Entrepreneurship	119	1.99	0.181
Innovation	119	3.00	0.602
Performance	119	4.15	0.492
Finance	119	4.04	0.434
Credit	119	3.92	0.593
Education	119	2.13	0.180

Data source: SPSS data processed in 2021.

**Table 4. Descriptive statistics for finance**

Items	N	Mean	Std. Deviation
FNC1	119	3.96	1.100
FNC2	119	4.27	1.014
FNC3	119	3.18	1.155
FNC4	119	2.34	1.068
FNC5	119	3.87	1.013
FNC6	119	3.67	1.090
FNC7	119	2.84	1.120
FNC8	119	3.67	1.082
FNC9	119	3.57	0.996
Finance	119	4.04	0.434

Data source: SPSS data processed in 2021.

**Table 5. Descriptive statistics for entrepreneurship**

Items	N	Mean	Std. Deviation
ETP1	119	1.52	0.502
ETP2	119	1.69	0.465
ETP3	119	1.04	0.201
ETP4	119	1.03	0.181
EDT5	119	1.22	0.415
Entrepreneurship	119	1.99	0.181

Data source: SPSS data processed in 2021.

**Table 6. Descriptive statistics for innovation**

Items	N	Mean	Std. Deviation
IVT1	119	2.53	1.213
IVT2	119	2.32	1.096
IVT3	119	2.12	1.129
IVT4	119	4.05	1.178
Innovation	119	3.00	0.602

Data source: SPSS data processed in 2021.

**Table 7. Descriptive statistics for Performance**

Items	N	Mean	Std. Deviation
PFM1	119	3.96	0.942
PFM2	119	4.20	0.754
PFM3	119	4.10	0.718
PFM4	119	3.74	0.868
PFM5	119	3.92	0.865
Performance	119	4.15	0.492

Data source: SPSS data processed in 2021.

**Table 8. Descriptive statistics for Credit.**

Items	N	Mean	Std. Deviation
CDT1	119	3.48	1.080
CDT2	119	4.14	0.950
CDT3	119	3.90	0.933
CDT4	119	4.09	0.965
Credit	119	3.92	0.593

Data source: SPSS data processed in 2021.

**Table 9. Descriptive statistics for Education.**

Items	N	Mean	Std. Deviation
EDT1	119	1.35	0.480
EDT2	119	1.68	0.468
EDT3	119	1.50	0.502
EDT4	119	1.48	0.502
EDT5	119	1.22	0.415
Education	119	2.13	0.180

Data source: SPSS data processed in 2021.

## 4.2. Reliability Test

A validity test was conducted on the questionnaire data to explore the reliability of the data, to check the fit of the data to run a successful analysis and the results. The Cronbach's Alpha (0.740) showed there is a good internal consistent reliability of the data, indicating that the data can be used for the analysis. Table 10 and Table 11, shows the validity and reliability findings.

**Table 10. Validity and reliability statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.740	0.694	33

Data source: SPSS data processed in 2021.

**Table 11. Item statistics for validity and reliability**

	Mean	Std. Deviation	N
FCN1	3.96	1.100	119
FCN2	4.27	1.014	119
FCN3	3.18	1.155	119
FCN4	2.34	1.068	119
ETP1	1.52	0.502	119
ETP2	1.69	0.465	119
ETP3	1.04	0.201	119
ETP4	1.03	0.181	119
PFM1	3.96	0.942	119
PFM2	4.20	0.754	119
CDT2	4.14	0.950	119
CDT3	3.90	0.933	119
CDT4	4.09	0.965	119
EDT1	1.35	0.480	119
EDT2	1.68	0.468	119
EDT3	1.50	0.502	119
EDT4	1.48	0.502	119
CDT1	3.48	1.080	119
FNC5	3.87	1.013	119
FNC6	3.67	1.090	119
FNC7	2.84	1.120	119
PFM3	4.10	0.718	119
IVT1	2.53	1.213	119
IVT2	2.32	1.096	119
IVT3	2.12	1.129	119
EDT6	1.68	0.468	119
IVT4	4.05	1.178	119
FNC8	3.67	1.082	119
PFM4	3.74	0.868	119
FNC9	3.57	0.996	119
PFM5	3.92	0.865	119
EDT5	1.22	0.415	119
ETP5	1.68	0.486	119

Data source: SPSS data processed in 2021.

### 4.2.1. Correlation Analysis

In order to determine the relationship between the independent (predictors) variables (finance, credit, education) and the dependent variables (entrepreneurship, innovation, performance), the independent and dependent variables were explored using correlation matrix.

Correlation matrix was performed to assess the relationship between finance, credit, education and entrepreneurship, innovation, performance, and to also test hypothesis 1 to 6. Correlation analysis was performed using Pearson's  $r$ , which measures the relationship between two variables, and ranges from negative one (-1) to a positive one (+1), zero (0) indicates that there is no relationship between the tested variables in the study, so to find the relationship, the study focused on between positive one (+1) and negative one (-1).

### 4.2.2. Statement of Problems

Problem 1. To investigate the relationship between finance and entrepreneurship.

H1: There is a relationship between finance and entrepreneurship.

Reporting Pearson correlation.

Pearson product correlation of finance and entrepreneurship, found that there is a very low relationship between entrepreneurship and finance ( $r=0.008$ ,  $p=.931$ ), which is not significant, indicating that there is a very low relationship between the two variables, which supports hypothesis 1 that stated there is a relationship between entrepreneurship and finance.

Problem 2. To investigate the relationship between finance and innovation.

H2. There is a significant relationship between finance and innovation.

Reporting Pearson correlation.

Pearson product correlation found that there is a moderate/low positive and statistically significant correlation between finance and innovation ( $r=.207^*$ ,  $P<.05$ ). Hence H2, was supported. This shows that providing adequate financing to promote and encourage innovation, increases the innovativeness of entrepreneurs in Nigeria or any given economy.

Problem 3. To investigate the relationship between finance and performance of entrepreneurs.

H3: there is a significant relationship between finance and performance

Reporting Pearson correlation.

Pearson product correlation was found to be strong and statistically significant ( $r=.550^{**}$ ,  $p<.01$ ). Hence H3, was supported, indicating that adequate finance is importance to the entrepreneurial innovative performance of enterprises in Nigeria.

Problem 4. To investigate the relationship between education and entrepreneurship.

H4: There is a significant relationship between education and entrepreneurship.

Reporting Pearson correlation.

Pearson product correlation for education and entrepreneurship was found to be moderately positive and statistically significant ( $r=.344^{**}$ ,  $p<.01$ ). Hence H4, was supported. This shows that education and skill/human

capital enhances the entrepreneurial capabilities of aspiring and potential enterprises in Nigeria.

Pearson product correlation was found to be strong and statistically significant ( $r=.518$ ,  $P<.001$ ). Hence H4, was supported, this shows that the ability of innovative entrepreneurs to access favorable credit facilities increases the financing of their activities and operations.

Problem 5. To investigate the relationship between education and innovation.

H5. There is a significant relationship between education and innovation.

Reporting Pearson correlation.

Pearson product correlation for education and innovation was found to be low and negative and not significant ( $r=-0.143$ ,  $P=.121$ ). Hence H5 was not supported.

Problem 6. To investigate the relationship between education and performance.

H6. There is a relationship between education and performance.

Reporting Pearson correlation.

Pearson product correlation for education and performance, was found to be negative and negligible non-significant ( $r=-0.022$ ,  $P=.810$ ) indicating no tangible relationship between the variables. Hence H6 was not supported.

Problem 7. To investigate the relationship between credit and entrepreneurship

H7. There is a relationship between credit and entrepreneurship

Reporting Pearson correlation.

Pearson product correlation for credit and entrepreneurship, was found to be low and statistically significant ( $r=.298^{**}$ ,  $P<.01$ ). indicating that there is a significant relationship between the two variables. Hence H7 was supported.

Problem 8. To investigate the relationship between credit and innovation.

H8. There is a relationship between credit and innovation

Reporting Pearson correlation.

Pearson product correlation for credit and innovation, was found to be negative and negligible non-significant ( $r=-0.092$ ,  $P=.318$ ). indicating that there no tangible relationship between the variables. Hence H8 was not supported.

Problem 9. To investigate the relationship between credit and performance.

H9. There is a significant relationship between credit and performance.

Reporting Pearson correlation.

Pearson product correlation for credit and performance, was found to be strong and statistically significant ( $r=.659^{**}$ ,  $P<.01$ ) indicating that there is a relationship between the two variables. Hence H9 was supported. [Table 12](#), shows the findings of the correlation matrix.

### 4.2.3. Regression Analysis

To understand the actual impact of finance on entrepreneurship innovation, and to explore the level of the relationship between the independent variables and the dependent variables, a standard multiple regression analysis was explored to assess and predict entrepreneurship innovation.

**Table 12. Correlation Matrix**

Variables	Correlation	Entrepreneurship	Innovation	Performance	Finance	Credit	Education
Entrepreneurship	Pearson Correlation	1					
Innovation	Pearson Correlation	-.233*	1				
Performance	Pearson Correlation	-0.017	-0.009	1			
Finance	Pearson Correlation	0.008	.207*	.550**	1		
Credit	Pearson Correlation	.298**	-0.092	.659**	.518**	1	
Education	Pearson Correlation	.344**	-0.143	-0.022	-0.146	-0.002	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Data source: SPSS data processed in 2021.

#### 4.2.4. Statement of Problem

The Problem 1: Investigate the impact/effect of finance, credit, education on entrepreneurship.

H10: There is a significant impact of finance on entrepreneurship.

H11: There is a significant impact of credit on entrepreneurship.

H12: There is a significant impact of education on entrepreneurship.

Reporting standard multiple regression

The dependent variable (entrepreneurship) was regressed on the predictors (finance, credit, and education) the independent variables predicted entrepreneurship,  $F(3, 115) = 10.836$ ,  $P < 0.01$ . which indicate that the independent variables under study have a significant impact on entrepreneurship. Moreover, the R square = .220, depicts that the model explained 22% (percent) of the variance in entrepreneurship. Also, the data showed that -13.5% variance in entrepreneurship can be accounted to finance, 36.8% is accounted to credit, and that 32.5% variance in entrepreneurship is accounted to education. Table 13, shows the summary of the findings.

Problem 2: To investigate the impact of finance, credit, and education on innovation.

H13: There is a significant impact of finance on innovation

H14: There is a significant impact of credit on innovation

H15: There is a significant impact of education on innovation

Reporting standard multiple regression

The dependent variable (innovation) was regressed on the predictors (finance, credit, and education), the independent variables predicted innovation,  $F(3, 115) = 4.537$ ,  $P < .001$ . which indicated that 2 factors out of the 3 factors under study have a significant impact on innovation. Moreover, the R square = .106, depicts that the model explained about 10.6% (percent) of the variance in innovation.

The data also showed that, 45.6% variance in innovation is accounted to finance, -26.7% is accounted to credit, and that -31.8% variance in innovation is accounted to education. Table 14, shows the summary of the findings.

The problem 3: To investigate the effect of finance, credit and education on performance.

H16: There is a significant impact of finance on performance.

H17: There is a significant impact of credit on performance.

H18: There is impact of education on performance.

Reporting standard multiple regression

**Table 13. Multiple regression**

Hypothesis	Regression weight	Beta coefficient	R <sup>2</sup>	t	P-value	Hypothesis supported
H10	Finance - Entrepreneurship	-0.135	.220	-1.384	0.001	No
H11	Credit - Entrepreneurship	0.368		3.813		Yes
H12	Education - Entrepreneurship	0.325		3.89		Yes
R	.469a					
F (3,115)	10.836					

a Dependent Variable: Entrepreneurship.

b Predictors: (Constant), Education, Credit, Finance.

Data source: SPSS data processed in 2021.

**Table 14. Multiple regression.**

Hypothesis	Regression weight	Beta coefficient	R <sup>2</sup>	t	P-value	Hypothesis supported
H13	Finance - innovation	0.456	.106	3.144	.005	Yes
H14	Credit - innovation	-0.267		-2.54		Yes
H15	Education - innovation	-0.318		-1.064		No
R	.325					
F (3,115)	4.537					

a Dependent Variable: Entrepreneurship.

b Predictors: (Constant), Education, Credit, Finance.

Data source: SPSS data processed in 2021.

**Table 15. Multiple regression.**

Hypothesis	Regression weight	Beta coefficient	R <sup>2</sup>	t	P-value	Hypothesis supported
H16	Finance - Performance	0.329	0.494	3.687	0.001	Yes
H17	Credit - Performance	0.422		6.533		Yes
H18	Education - Performance	0.058		0.315		No
R	0.703					
F (3,115)	37.429					

a Dependent Variable: Entrepreneurship.

b Predictors: (Constant), Education, Credit, Finance.

Data source: SPSS data processed in 2021.

The dependent variable (performance) was regressed on the predictors (finance, credit, and education), the independent variables predicted performance,  $F(3, 115) = 37.429$ ,  $P < .001$ , which indicate that the 3 factors under study have a significant impact on performance. Moreover, the R square = 0.494, depicts that the model explained 49.4% (percent) of the variance in performance. The data further showed that 32.9% variance in performance is accounted to finance, 42.2% is accounted to credit, and that 05.8% variance in performance is accounted to education. Table 15, shows the summary of the findings.

## 5. Discussion of Findings

The demographic data indicate that, average respondents from the sample, mean = 1.34 (SD = .477) (N=119) are males, and the minimum age of the respondents is 1 which according to the data is within the range of 21-30 years old and maximum age is 4, and within the age range of 51 years old and above, the average age of the respondents, mean = 1.57 (SD= 0.708) which from the data is found within 31-40 years old (N=119).

The data showed that average respondents, mean= 2.01 (SD=0.644) are college/University graduates and average position, mean = 2.55 (SD = 1.630) are business managers. The data further showed that average respondents, mean= 4.67 (SD=2.491) are in Materials sector, and average duration operated by the respondents in the industry, mean = 1.84 (SD =1.017) is within the range of 11-20 years. The average operating capital of the respondents, mean = 1.45 (0.861) is less than 20 million (<20,000,000).

The demographic data shows that there is moderate number of female entrepreneurs in Nigeria with 34.5 % female respondents and 65.5 % male respondents (N=119), considering the data size which is quite small, and given capital challenges in Nigeria. The operating capital of the respondents from different sectors, indicate that there is no adequate operating capital to offset the requirement to recruit and acquire skilled labor requirement, and the necessary machineries and technologies. The average operating capital of respondents in the healthcare sector 10.1%, is 1.42 (<=20 million) (SD= .288). In the industrial sector, the average operating capital is 1.64 (SD = .199) (N = 119) which is 25-100 million.

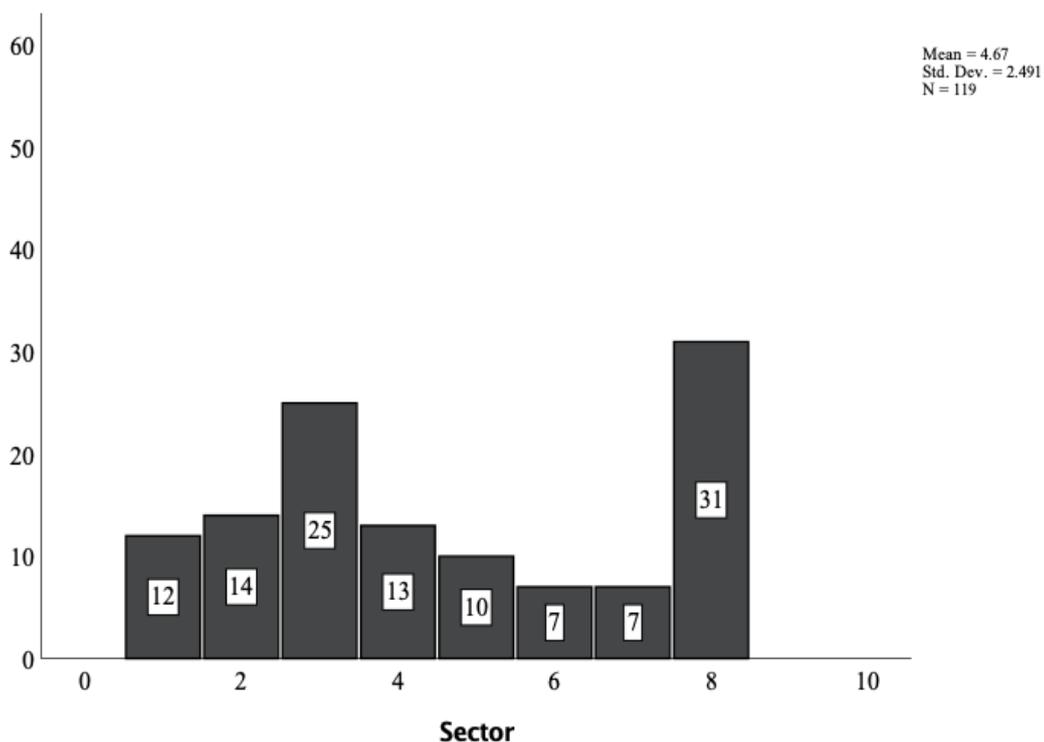


Figure 5.

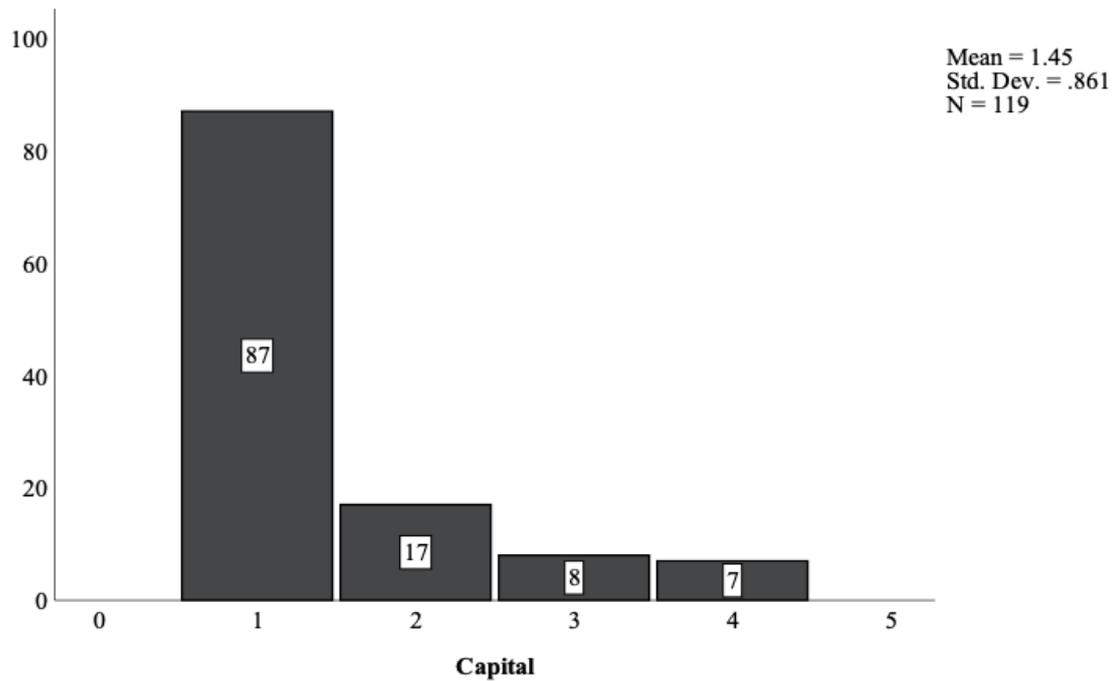


Figure 6.

The information technology accounting for 10.9% of the respondents, the average operating capital of the respondents is 1.23 ( $\leq 20$  million) ( $SD = .122$ ). The real estate sector accounting for 8.4% of the respondents, the average operating capital is 1.80 (25-100 million) ( $SD = .291$ ). the retail sector, which accounted for 26.1% of the respondents, the average operation capital is 1.35 ( $\leq 20$  million) ( $SD = .151$ ).

The data showed that average 4.67 ( $SD = 2.491$ ) are in the real estate, and that average operating capital is 1.45 ( $SD = .861$ ) ( $N = 119$ ) which is  $\leq 20$  million.

The average operating capital of respondents indicate low capacity of enterprises, and inability to acquire necessary equipment needed and the required human capital in the nature of labor. This is equally evident in the migration of expert to areas and regions of the world where their services are utilized at the right cost. And is evident in the lack of human capital at various sectors of the Nigerian economy.

The result from the correlation analysis in hypothesis 1, investigating the relationship between finance and entrepreneurship found ( $r = 0.008$ ,  $p = .931$ ), which is not significant. This illustrates that though entrepreneurship need adequate financing, but finance is not the primary variable for entrepreneurship to succeed in Nigeria, attention should be given to the type of funding and at what stage, short-term or long-term, there could other serious factors like local/external forces outside the control of the entrepreneurs like basic infrastructure, that may enhance cost of operating an enterprise in Nigeria. From the data, one can deduce that entrepreneurship depends heavily on other factors aside just finance to succeed in Nigeria.

The regression data of the dependent variable (entrepreneurship) and the predictors (finance, credit, and education) found  $F(3, 115) = 10.836$ ,  $P < 0.01$ , showed that 22% (percent) of the variance in entrepreneurship is accounted to the combined factors (finance, credit, and

education), the data showed that -13.5% variance in entrepreneurship can be accounted to finance which demonstrate that as more finance is acquired, the level entrepreneurship in Nigeria decreases, this could be linked to unregulated government grants and programs that are not well thought and strategically implemented, but undertaken to score cheap political goals. "Several policy interventions in Nigeria that were aimed at stimulating entrepreneurship development via small and medium scale enterprises have failed" [49]. This answers research question 3 (Are the current government economic policies on entrepreneurship empowerment effective on promotion of innovative entrepreneurship in Nigeria). The 36.8% variance in entrepreneurship accounted to credit, shows that favorable and long-term credit facilities available to entrepreneurs can increase their productivity. The 32.5% variance in entrepreneurship accounted to education, demonstrates that adequate education on technology/technical skill and entrepreneurship management has a very good effect on entrepreneurial activities in Nigeria.

Pearson product correlation for finance and innovation found that there is a low positive significant relationship ( $r = .207^*$ ,  $P < .05$ ). This shows that providing adequate financing to promote and encourage innovation, increases the innovativeness of entrepreneurs in Nigeria. This will help in acquiring the necessary technology and equipment to enhance innovative industrial projects in Nigeria. The combined variables (finance, credit and education) predicted 10.6% innovation in Nigeria. The regression data predicted that 45.6% variance in innovation is accounted to finance. This is an implication that innovation thrives in an environment where entrepreneurs have easy access to long-term finance and finance security.

Exploring the relationship between finance and performance, Pearson product correlation ( $r = .550^{**}$ ,  $p < .01$ ) which is strong positive and statistically significant indicated that providing adequate finance is of gr/ea

importance to the entrepreneurial innovative performance of enterprises in Nigeria. The regression data of finance and performance predicted that 32.9% variance in performance is accounted to finance, this further suggested that improving the financial flow to innovative entrepreneurs will improve and increase their innovative performance and enhance the productivity/output, and equally enhance economic wellbeing of the people within the economy.

Education and entrepreneurship data of Pearson product correlation ( $r=.344^{**}$ ,  $p<.01$ ), which is moderately positive and statistically significant shows that education and human skill/human capital enhances the entrepreneurial capabilities of aspiring and potential entrepreneurs and enterprises in Nigeria. The regression data successfully predicted that 32.5% variance in entrepreneurship in Nigeria, is accounted to education, this indicates that more attention should be given the education sector, improve it, to produce the results that will enhance productivity. As potential and aspiring innovators need adequate education in technology and innovative management to produce the best innovative results.

Pearson product correlation found the relationship between education and innovation to be negative and non-significant ( $r=-0.143$ ,  $P=.121$ ). The data showed that as education increases in Nigeria, innovation and productivity decreases, which is very bad for Nigeria's economy, and any economy in such situation. The regression successfully predicted that -31.8% variance in innovation is accounted to education. This simply indicate that 31.8% deficiency in innovation and entrepreneurial productiveness is due to poor and inadequate education, (non-productive education system), this non-productive education system negatively affects growth and productivity in Nigeria), this is supported by the work of Henny Romijn and Manuel Albaladejo (Determinants of Innovation Capability in Small UK Firms), which concluded that the importance of academic education in science or engineering and relevant experience of the founders/managers stands out in determining innovation strength [50], this provides us with insight as to the deficient -31.8% between education and innovation in Nigeria, this is also supported by findings of Ugochukwu Moses Urim and David Imhonopi in 2015, which found that Limited managerial capability of entrepreneurial firms due to inexperience, illiteracy and absence of mentoring and entrepreneurial network are among the things hindering entrepreneurship development in Nigeria [20]. The findings also support the conclusion of Xiaokui Wang, in "creative education", that the task of higher education is to cultivate high-level professionals with innovative spirit or skills and practical ability [27], expressing the importance of improving education to enhance innovative capacity, this would change the negative relationship between education and entrepreneurship to positive. This answers research question 2 which tends to find if the current education system in Nigeria equips and support potential entrepreneurs with the relevant skills, exposure on application of knowledge and skills to effect innovation, thus; more expressing how ineffective the Nigerian educational sector is. The findings also support the study by Elizabeth Funmi Oseni on "The relevance on

entrepreneurship education on micro, small and medium enterprises (MSMEs) in Nigeria, which found no significant correlation between the Nigerian educational system and entrepreneurship development in Nigeria [51].

Also, the data for education and performance showed a low negative correlation/relationship between the two variables under consideration in investigating the reason for the failures of entrepreneurship innovation in Nigeria ( $r=-0.022$ ,  $P=.810$ ), indicating no tangible relationship between the variables, the regression data showed that education accounted for about 05.8% of variance in entrepreneurial innovation performance, equally indicating that there is a very low relationship between education and performance of entrepreneurs in Nigeria, this can be expressed that either that majority of the entrepreneurs are not academically well equipped or that the educated and skilled human capital in Nigeria is not innovatively engaged or utilized, hence, the deficiency in results and productivity.

Furthermore, Pearson product correlation data for credit and entrepreneurship ( $r=.298^{**}$ ,  $P<.01$ ), which is low and statistically significant, indicated that there is a significant relationship. Also, the regression data which investigated the actual impact of credit on entrepreneurship showed that 36.8% variance in entrepreneurship is "accounted to credit. This indicates that improving the terms of credit to make it easier for genuine innovative entrepreneurs to obtain long term credit facilities from the financial institutions (capital), would improve and increase entrepreneurship growth and development in Nigeria. This is also partly in agreement with Diyoke, Christian Ikechukwu Entrepreneurship development in Nigeria", which concluded that the challenges of entrepreneurship development in Nigeria are largely that of sourcing of capital, expertise in management of the business, poor investment decisions [52]. This pointed directly finance (credit) and education/training. Credit and innovation data showed a negligible non-significant relationship ( $r=-0.092$ ,  $P=.318$ ), the regression data showed that credit accounted for -26.7% of variance in innovation, which shows that as more credit facilities for the purpose of innovation activities are obtained or acquired, innovation or output decreases (the purpose of the credit facility), indicating that there no tangible relationship between the ability to access credit facilities and been innovative in Nigeria.

From the data, there is a positive significant relationship between education and entrepreneurship ( $r=.344^{**}$ ,  $p<.01$ ), but the entrepreneurship is not innovative and productive, as shown in the data between education and innovation in Nigeria ( $r=-0.143$ ,  $P=.121$ ).

## **6. Conclusion and Limitations of the Study**

### **6.1. Conclusion**

The study aimed at investigating the relationship between entrepreneurship innovation and finance in Nigeria. The study makes a contribution to entrepreneurship innovation in Nigeria, and identified the importance of education and affordable finance to tackle the deficiency on innovative entrepreneurial activities in

Nigeria. From the research data and findings, finance is not the only obstacle facing entrepreneurship innovation and development in Nigeria, human capital capacity through education remains the true obstacle.

The study found there is a significant relationship between finance and entrepreneurship innovation, and predicted that 45.6% innovation in Nigeria is accounted to finance and ability to access long-term finance (credit). The result attributed the failures of entrepreneurship innovation to lack of adequate education to enhance the entrepreneurial activities which is negatively correlated, and predicted that 31.8% deficiency in entrepreneurship innovation activities in Nigeria is caused by lack of adequate education and training to fully equip the entrepreneurs. Looking at the implications, any amount spent for the purpose of entrepreneurship innovation, might yield the same result as majority of entrepreneurs lacks the actual capacity to effect innovation. The findings of Meghana Ayyagari, Asli Demircug-Kunt, and Vojislav Maksimovic in 2011, further highlighted the important role of finance and education in enhancing entrepreneurship innovation and productivity “access to external finance is associated with greater firm innovation, and that highly educated managers, ownership by families, individuals and managers, and exposure to foreign competition is associated with firm innovation” [40].

The growth of entrepreneurship activities is boosted by finance and credit, this is shown in data that shows that performance of entrepreneurial activities is mostly dependent on finance and long-term credit facilities. Finding a synergy to make to ensure that education reflects on the level of innovative and productive activities in an economy is of great importance, Innovation is a powerful explanatory factor behind differences in performance between firms, regions, and countries. In the words of Jan Fagerberg (2004), “Firms that succeed in innovation prosper, at the expense of their less able competitors. Innovative countries and regions have higher productivity and income than the less innovative ones” [14].

With these findings, the study can conclude that; the failure of entrepreneurship innovation in Nigeria can be addressed through improved and adequate education and standardized finance mechanisms, these findings is partly supported by OECD 2010 report on innovation “the innovation strategy”, which suggested that “to be effective, innovation policy must take account of how innovation takes place today,, which encompasses a wide range of activities, including research and development (R&D), organizational changes, firm-level training, testing, marketing and designs, and further stated that innovation rarely occurs in isolation, it is highly interactive process involving a growing and diverse network of stakeholders, institutions, and users around the globe [6]. This implies that, with improved and expanded education and finance mechanisms, the potential entrepreneurs and innovators can be skillfully equipped and financially stable and capable to conduct their activities. These would increase the productivity and innovative performance of Nigerian entrepreneurs. Furthermore, improving infrastructures that enhance productivity and reduce the cost of enterprise operation in Nigeria should be prioritized. The study findings are also supported by the findings of Radul

Milutinovic, Slađana Benkovic, Biljana Stošić, which concluded that it is very important for the companies in any country or economy to have access to different funds of innovation financing [19].

The findings of the study are consistent with findings by other scholars and researchers in related topics notably the findings of Khyareh Mohsen Mohammadi, Khairandesh Masoud, Torabi Hossein on “Macroeconomic effects of entrepreneurship; evidences form factors, efficiency and innovation driven countries”, which found that, a national efficiency enhancing framework such as entrepreneurial finance, government policy, government supportive programs, entrepreneurship-based education, Research and Development (R&D) transfer, commercial and legal infrastructure, internal market dynamics, internal market burden, physical infrastructure, cultural and social norms, act as stimulants for the entrepreneurial behavior of entrepreneurs [1], and also the findings of Diyoke Christian Ikechukwu, which found that the challenges of entrepreneurship development in Nigeria are largely that of sourcing of capital, expertise in management of the business, poor investment decisions [52], notably highlighting access to finance and impactful education. Entrepreneurs are productive and innovative given the environment they operate in, enhancing entrepreneurial finance (access to affordable finance) and education (scientific and technological education, administrative and managerial education) will help mitigate the gap and deficiency in entrepreneurship innovation.

## 6.2. Suggestions from the Study

The secret behind the success of big industrialized countries and economies around the world lies in the ability to prepare and equip the most important asset of the economy which is the human capital, with the necessary education, amenities, and supportive environment coupled with positive economic policies that is channeled towards growth and development. A nation cannot obtain what it cannot offer, “A central finding in the innovation literature is that a firm does not innovate in isolation, but depends on extensive interaction with its environment” (Fagerberg, 2004). To enhance economic growth, entrepreneurship innovative performance and productivity in Nigeria, this study therefore recommends;

- a. Adequate attention should be given to the finance sector, by setting a standard finance policy for entrepreneurship innovation, and innovative start-up financing in Nigeria, and should be strictly monitored to ensure full compliance.
- b. Orientation on finance mechanisms for prospective entrepreneurs, should be prioritized to enhance sustainable entrepreneurship and innovation funding in Nigeria.
- c. Reforming and improving the education sector on application of technical and scientific technological skills in higher institutions in Nigeria, would improve entrepreneurship and innovation success and performance in Nigeria thereby increasing the competence of Nigerian enterprises.
- d. Entrepreneurship support and innovation grants should be standardized through the finance institutions, and in conformity throughout the

country to ensure equal access to all entrepreneurial citizens.

- e. Proactive government policy and support to encourage productivity through establishment of science/innovation hubs/parks with certain incentives to encourage local productivity within the economy.
- f. Establishment of R&D institutes with clear definitions that will guide focused research, enhance individual decision making, and effective governmental policies, through collaboration with the higher institutions in Nigeria, creating a synergy between institutes of research and higher learning and innovative entrepreneurs, this will make successful innovative research results available to innovative entrepreneurs, thereby accelerating the utilization of education in enhancing economic growth and development.
- g. Establish a stable economic policy with clear definitions that are result oriented to support genuine innovative Nigerian entrepreneurs and research institutes.

### 6.3. Limitations and Recommendation for Further Research

The limitations of this study are data, due to the Nigerian environment, the data collection was difficult as most respondents from the sample were very reluctant to respond, the geographical location of the sample, cost of internet and platform of the data submission delayed data collection and also made it difficult.

The study recommends further research on entrepreneurship innovation and finance in Nigeria on a bigger scale with bigger/larger data. Using different data set might give more insight and further elaborate the causes of entrepreneurship innovation failures in Nigeria, finally, the study world also recommends further research on effects of cost of business operations on entrepreneurship innovation in Nigeria.

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