

**Financial Inclusion and Poverty Reduction: The Moderating effects of Financial  
Technology (FinTech) in Selected Semi-Urban Areas of Ibadan Metropolis,  
Oyo State, Nigeria**

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## Certification

This is to certify that Ayoola Abimbola Eso with matriculation number LCU/PG/000051 carried out this research work titled “**Financial Inclusion and Poverty Reduction: The Moderating effects of Financial Technology (FinTech) in Selected Semi-Urban Areas of Ibadan Metropolis, Oyo State, Nigeria**” in the Department of Management and Accounting, Faculty of Environment and Social Sciences, Lead City University, Ibadan, Oyo State, for the award of Doctor of Philosophy Degree (Ph.D) in Finance and that this has not been previously submitted.

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## **Dedication**

This research work is dedicated to God Almighty.

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## **Acknowledgement**

I wish to acknowledge and express my sincere appreciation to Lead City University, Ibadan for the opportunity to finished this research work, Lead City University Library and CBN library for the materials gotten from there.

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I appreciate my wife and my children for their supports, and understanding.

Even though the above-mentioned institutions and persons have assisted in the process of this research work, I alone stand responsible for the errors, if any, found in the work.

## Abstract

This study investigated the influence of financial inclusion and poverty reduction in selected semi-urban areas of Ibadan Metropolis, Oyo state, Nigeria. The objectives of the study is to identify the level of poverty in semi-urban areas of Ibadan metropolis; examine how access to fintech financial services products reduces poverty level in semi-urban areas of Ibadan metropolis; highlight how the usage of fintech financial services products can be used to reduce poverty level in semi-urban areas of Ibadan, Oyo State, metropolis and find out the quality of fintech product and service delivery on poverty reduction in semi-urban areas of Ibadan metropolis. Nigeria has witnessed many economic and development plans changes over the last few decades. Several reforms and initiatives aimed at poverty reduction and enhancing financial inclusion had been attempted by the Nigerian government and its development partners in the recent time. The study adopted a cross sectional survey design. Data collection techniques employed was self-administered questionnaire. The questionnaires were administered to a total of 293 to the respondents and that are fintech customers from the semi-urban areas of Ibadan, Oyo State Nigeria by using simple random sampling procedures. In analysing the relationship among the variables, the PearsonCorrelation technique was adopted. The findings of the study revealed that there is a significant relationship between the financial inclusion and poverty reduction. The results further revealed that fintech positively moderate the relationship between the variables under studies. The study recommends the financial inclusion to be more robust in the rural areas and to make fintech a more effective means of poverty reduction other services such as, education loan, technological support loan, skills training, and housing appliance loan should be included in microfinance services.

**Keywords:** Financial Inclusion, Financial Technology (FinTech),Poverty reduction, Unemployment, Poverty.

**Word count:** 281

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<b>Acronyms</b>	<b>Meaning</b>
AFI	Alliance for Financial Inclusion
ALSP	Alternative Legal Service Providers
APIs	Application Programming Interfaces
AI	Artificial Intelligence
ALD	Asset Liability Discrepancies
ADF	Augmented Dickey-Fuller
ARDL	Auto Regressive Distributed Lag
ARDL	Autoregressive Distributed Lag
BVN	Banking Verification Number
CCR	Canonical Cointegrating Regression
CM	Capacity Management
CBN	Central Bank of Nigeria
CBLA	Commercial banks' loans and advances (CBLA)
CERTs	Computer Emergency Response Teams .
CGAP	Consultative Group on Assistance to the Poor
COB	Currency Outside the Banking Sector
DEA	Data Envelopment Analysis
DMBs	Deposit Money Banks
DOLS	Dynamic Ordinary Least Squares
ECM	Error Correction Model
FCT	Financial Constraint Theory
FIDWG	Financial Inclusion Data Working Group
FIS	Financial Inclusion Score
Fintech	Financial technology
FMOLS	Fully Modified Ordinary Least Square
GCF	Gross Capital Formation

HDI	Human Development Index
HPI	Human Poverty Index
ICT	Information and Communication Technology
ITIL	Information Technology Infrastructure Library
IMF	International Monetary Fund
LCDAAs	Local Council Development Districts
MFBLA	Microfinance banks' loans and advances
MDGs	Millennium Development Goals
MMO	Mobile Money Operators
MPI	Multi-Dimensional Poverty Index
MLR	Multiple Linear Regression
NFIS	National Financial Inclusion Strategy
NIMC	National Identification Management Card
NPAs	Non-Performing Assets
OLS	Ordinary Least Square
POS	Pecking Order Theory
POS	Point of Sale
PPP	Purchasing Power Parity
Reg-tech	Regulatory technology
RPA	Robotic Process Automation
SLA	Service Level Agreement
SLM	Service Level Management
SANEF	Shared Agent Network Expansion Facilities
SMEs	Small and Medium-Sized Enterprises
SaaS	Software-as-a-Service
Stats SA	Statistics South Africa
SSA	Sub-Saharan Africa

SDGs	Sustainable Development Goals
TOI	Total Open Innovation
UN	United Nations
WBG	World Bank Group
WHO	World Health Organization

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## Chapter One

### Introduction

#### 1.1 Background to the Study

Poverty, which is the condition of having insufficient money to maintain a minimal quality of living, continues to be a significant problem for African nations<sup>1</sup>. Living in poverty, according to the World Bank, means making less than 1.9 dollars per day. Additionally, those living in poverty frequently have low incomes and consumption levels and frequently lack access to clean water, decent housing, wholesome food, adequate medical care, and improved education, among other things<sup>2</sup>. The average poverty rate in sub-Saharan Africa (SSA) is 41%, which means that there are now 413 million more poor people in the sub-region than there were in 1990. Financial exclusion is one of the causes of poverty and financial hardship in emerging nations.

When a household lacks the financial resources to meet even the most basic dietary requirements for growth and long-term survival, it is said to be in a state of poverty. A vicious spiral of challenging circumstances and insurmountable obstacles, poverty deprives the poor of options and diminishes their standard of living. The lives of these people might not get much better from year to year, and typically, these unfavorable conditions could last from one generation to the next<sup>3</sup>.

Poverty has existed in Nigeria before the country attained independence in 1960. When a family's income is insufficient to cover the bare minimum of dietary requirements for development and long-term survival, it is said to be in a state of poverty. Poverty is a cycle of many difficult obstacles to overcome, which leaves the poor with few options and decreases their standard of living. Such people's lives and living conditions might not change from year to year, and often, these unfavorable conditions could last from one generation to the next<sup>4</sup>.

Lack of basic amenities, comfort, self-esteem, confidence, usefulness, and self-actualization are all indicators of poverty. Those who are in poverty do not wish to stay there. The underprivileged work arduously to improve their circumstances. People who are struggling with poverty are demonstrating this by changing their employment, locations, religions, and cultures, among other things. Since poor people make up poor communities, and poor communities make up poor societies, which in turn translate into impoverished nations and regions, the issue of poverty is addressed not just at the individual level, but also at the national, regional, and international levels. A poverty cycle that impedes growth and development is implied by poverty, which is a drag on any economy. It also entails non-optimal use of a country's human and natural resources<sup>5</sup>. In this vein, several national, multinational and international institutions have put in place strategies and measures to reduce poverty nationally and globally. The United Nations have come out with the Millennium Development Goals (MDGs) that requires for countries to put in place a concerted effort to, among other things, eradicate extreme poverty and hunger.

Underlining concept of payments and inclusion, an inclusive economy is essential for the world's most vulnerable citizens working in the informal sector. Additionally, it makes it simple for the poor, but active populace to get loans to invest in any enterprise that can bring in money for them. People who work in the financial sector will be able to manage risks, thanks to the investments they have made with the money they have saved United Nations (UN). Access to financial services also gives the poor the ability to borrow and save money, which enables them to establish enterprises, invest in education, and buy assets to raise their level of living<sup>6</sup>. Financial inclusion is advantageous to young people, women, and those who are less privileged in rural sections of society.

In developing nations where majority of the population is often poor, reducing poverty is the most difficult problem to overcome. Evidence from Nigeria indicates that the number of

people living in poverty has risen over time. For instance, the percentage of people living in poverty rose from 27% in 1980 to 46% in 1985, then somewhat decreased to 42% in 1992, and then very abruptly surged to 67% in 1996. Estimates indicated that more than 70% of Nigerians were considered to be living in poverty in 1999, the year the Obasanjo administration took office. This administration stated that the N470 billion budget for the year 2000 aimed "to ameliorate poverty" in November 1999. The government received consent to commit N10 billion to a program to reduce poverty before the National Assembly even approved the 2000 budget.

The government raised funding for programs aimed at reducing poverty by 150 percent in the 2001 budget. High hopes were placed in this idea of reducing poverty, especially in light of how quickly the Obasanjo administration dealt with the gasoline issue after taking office. The reduction of poverty was considered as a way for the government to revive the ailing economy and restore the majority of Nigerians' self-esteem after being dehumanized by previous military regimes<sup>7</sup>. This identifies a more practical strategy for reducing poverty in Nigeria by evaluating both the Obasanjo administration's achievements and the role performed by previous governments.

Financial inclusion is one of the solutions for eradicating poverty from the planet. Financial inclusion, which offers the chance for people to benefit from financial services and as a result contribute to the processes of the beneficiaries' economic and social advancement and also indicated that financial inclusion is essential in improving people's livelihoods and as a result reduces poverty, is a crucial component of ending social exclusion<sup>8</sup>.

In order to better meet both individual and collective goals for a fulfilling existence, the notion of financial inclusion primarily focuses on access, availability, and usage of the organized framework for financial services by people in a specified economy. It is a vital metric and assists in reducing poverty, producing jobs and wealth in an economy, enhancing

the level of life for the general public and raising the standard of living as measured by welfare, all of which contribute to growth in the economy as a whole. Financial inclusion provides a foundation for raising income levels, raising the general standard of life, and accelerating economic growth in emerging and developing nations worldwide. People's ability to access finance establishes the foundation for risk management-driven processes that benefit society in general and families in particular.

The term "financial technology," or "fintech," refers to the use of technology and innovation to the provision of financial services through software. FinTech software to facilitate more convenient service delivery at lower labor costs. Blockchain, big data, Artificial Intelligence (AI), Application Programming Interfaces (APIs), and Total Open Innovation (TOI) are just a few of the technologies employed in fintech. These technologies are employed to deliver a variety of services, including cryptocurrency mining, asset management and trading, remittances and payment settlement, online savings and loans, customer service, and much more. Technology-driven financial innovation known as "fintech" has accelerated financial development<sup>9</sup>. China has been at the forefront of the development of digital financial services thanks to a thriving fintech sector and a sizable user base. In several fields, including as payments, wealth management, and online insurance, fintech has advanced considerably more quickly in China than it has in the United State of America or Nigeria.

FinTech now includes various sectors and industries like education, retail banking, fundraising and non-profit, and investment management that use new technology to improve and automate the delivery and use of financial services, from mobile payment applications to cryptocurrency. However, as technology and digitalization increased over time, its definition took a more consumer-oriented approach. Governments, academics, and economic observers from all over the world have come to recognize financial inclusion as an essential tool for

eradicating poverty, creating jobs and wealth, raising people's standards of life, and ultimately fostering economic progress<sup>10</sup>.

Due to its now obvious impact on reducing poverty, which is essential for the nation's economic progress, the idea has grown in favor in recent years. This is a result of the government realizing that the more people who participate in the financial system, the less money there is to be found outside of it, which can help to encourage investment in the economy. On the other hand, developed nations are aware of the many various, intricate, and diversified causes that have contributed to financial exclusion; this has led to the introduction of a variety of unique service providers, pertinent products, and best-in-class technology that are appropriate for the socioeconomic, political, cultural, and geographic characteristics that are particular to their economies and geographic regions.

The majority of the poor in developing nations have limited access to formal financial services due to a lack of those services, which includes high levels of public debt that are hampered by access to credit for businesses and individuals; high inflation that discourages savings; and a lack of financial institutions; due to a lack of leverage or credit documentation and a scarcity of national credit, formal financial services are inaccessible to the bulk of the poor population because of a lack of physical infrastructure and institutional support.

Financial inclusion has climbed to the top of the priority list in policymakers' deliberations about how to alleviate poverty since it has a substantial impact on economic and social consequences. Nigeria's high poverty rate may be explained by the rise in the number of people who are financially excluded from the country's official financial system. There are a variety of elements that might influence the idea of financial services; accessibility in terms of geographical proximity to a financial service provider and socio-economic accessibility, are two of the factors to consider (i.e. absence of prohibitive fees and documents that are required). For example, the idea of microfinance relates to the supply of goods to certain

populations at the lower end of the market, utilizing specific delivery methodologies and institutions. Financial inclusion encompasses a wide range of concepts, including but not limited to access. It now encompasses digital finance, which is described as the use of new technologies in finance through a variety of solutions, business processes, and approaches that have radically changed the conventional means of providing financial services, including banking, to customers<sup>11</sup>.

Numerous studies have shown the significance of financial inclusion, including, but not limited to, the fact that populations with access to savings institutions have increased savings, investment, spending, and empowerment. However, it cannot be proven until it is investigated whether financial inclusion is a panacea for poverty reduction in Nigeria, using a study of selected rural settlements in the Ibadan metropolis, in the state of Oyo, in Nigeria.

## **1.2 Statement of the Problems**

When it comes to financial exclusion, Nigeria is a case in point, with the vast majority of the money in the country remaining outside of the banking system. As a result, the problem of financial exclusion has emerged as a significant economic concern that requires more investigation. The global financial inclusion average identified as the number of adults with access to financial services which is less than 50.0%. The problem is more acute in the developing and African countries in particular, such that achieving a higher financial inclusion level has become a global challenge but more peculiar to Nigeria<sup>12</sup>. The global target of financial inclusion through fintech has been to remove all the barriers, including education, gender, age, irregular income, regulation and geographical locations that have together contributed to the dearth of access to financial services by billions of adults all over the world.

Despite all of the initiatives and efforts made by governments throughout the world to address the issue of poverty alleviation, the problem continues to exist. Fintech companies were initiated to play a key role in boosting financial inclusion by leveraging the existing financial ecosystem and emerging technologies to make banking simpler, more accessible, and cost-effective for millions of unbanked and under-banked Nigerians.

The literature on financial inclusion in economics, on the other hand, is still in its early stages, despite the fact that access to finance has emerged as a topic on the international agenda for Sustainable Development Policy. The most appropriate measures of financial inclusion at both the community and national levels have been investigated in a vast number of studies, whereas a few studies have concentrated on the role of financial access in decreasing poverty and income inequality.

Although gradual progress is being made to improve on financial inclusion, critical challenges of low financial literacy, inadequate infrastructural facilities as well as inadequate and inefficient technology-based facilities by financial institutions, has limited the achievement of significant expansion in financial at the World Bank Group (WBG) financial inclusion was meant to operate across three dimensions – 'Access, Usage, and Quality' of financial services. Fintech has to be identified and measured as the potential to lower costs, while increasing speed and accessibility, allowing for more tailored financial services that can scale.

Interesting that these studies have laid the groundwork in this sector and offered important policy insights into the relevance of financial inclusion and poverty reduction as well as sustainable development in selected semi-urban regions of Ibadan Metropolis, Oyo State.

### 1.3 Aim and Objectives of the Study

The major objective of the study is to investigate the influence of financial inclusion and poverty reduction in selected semi-urban areas of Ibadan Metropolis, Oyo state, Nigeria.

Other objectives are to:

1. identify the level of poverty in semi-urban areas of Ibadan metropolis.
2. examine how access to fintech financial services products reduces poverty level in semi-urban areas of Ibadan metropolis.
3. highlight how the usage of fintech financial services products can be used to reduce poverty level in semi-urban areas of Ibadan metropolis.
4. find out the quality of fintech product and service delivery on poverty reduction in semi-urban areas of Ibadan metropolis.

### 1.4 Research Questions

The study addressed the following research questions:

1. What is the level of poverty in semi-urban areas of Ibadan metropolis?
2. How does access to fintech financial services products reduce poverty level in semi-urban areas of Ibadan metropolis?
3. To what extent does usage of fintech financial services products used to reduce poverty level in semi-urban areas of Ibadan metropolis?
4. How does the quality of fintech products and service delivery influence poverty reduction in semi-urban areas of Ibadan metropolis?

### 1.5 Hypotheses

The following hypotheses formulated were tested

**H<sub>01</sub>:** There are no significant level of poverty in semi-urban areas of Ibadan metropolis.

**Ho2:** There are no significant impacts of access to fintech financial services products on poverty level reduction in semi-urban areas of Ibadan metropolis.

**Ho3:** There are no significant impacts of usage of fintech financial services on poverty level reduction in semi-urban areas of Ibadan metropolis.

**Ho4:** There are no significant impacts of quality of fintech product and service delivery on poverty reduction in semi-urban areas of Ibadan metropolis.

### **1.6 Significance of the Study**

This study will be of relevance to researchers, who are looking in the direction of this research subject, practitioners and policymakers who are in the position to make changes for the improvement of poverty level in Nigeria, especially as we start to see the use of new technologies in developing new products and solutions. It will contribute to the huge body of research on financial inclusion, and more especially, the effect of financial inclusion on rural poverty, which has already been conducted. To the best of the researcher's knowledge, this is one of the few studies that has looked at the relationship between financial inclusion and poverty reduction in Nigeria, and it is well worth reading.

Furthermore, the findings of this study will be useful for policymaking in the areas of financial development and financial inclusion in Africa, as well as for development agencies such as the African Development Bank, the World Bank, the International Monetary Fund, and the Alliance for Financial Inclusion, to name a few of the participants. Consequently, the results obtained from the study renders help in the recommendation of some policies and guidelines that will help in decision making and directions of the capital structure of finance institutions in Nigeria in order to improve their performance. Hence, scholars, Chief Executive Officers of banks, Fintech, other firms and finance managers in Nigeria will find the output of this study as a useful database and resource material.

## 1.7 Scope of the Study

The research focuses entirely on Financial Inclusion through fintech as well as Poverty Reduction in Select Semi-urban Areas of the Ibadan Metropolis, Oyo State, with a specific emphasis on FinTech users, and it does not include any other topics. It is the goal of this research to identify the most relevant metrics of financial inclusion at the household and national levels. To correctly assess someone's poverty level, it is required to speak with them and inquire about their level of satisfaction, joy, and degree of suffering from the most basic of necessities. Therefore, primary data were randomly selected and extracted from the three senatorial districts and from different local government areas in Ibadan, since these areas are assumed to be Selected Semi-urban areas of Ibadan Metropolis. This is based on the fact that in the Ibadan Metropolitan Area, there are eleven (11) Local Governments, with five (5) urban local governments in the city and six (6) semi-urban local governments outside the city, and that the population of the city is around 1.3 million.

## 1.8 Operational Definition of Terms

**Access:** The ability to employ absolute financial services and packages from government-sponsored organizations is available. Accepting intensities of access could need intuition into and analysis of attainable obstacles to having and using a bank account for any drive, such as charges and closeness of bank service points (for example, branches and ATMs).

**Deposit Money Banks:** These are entities which have liabilities like deposits that are payable on demand, by any instruments used for making payments.

**Digital Finance:** Digital finance refers to the influence of new technology on the financial services business. It encompasses a wide range of goods, applications, procedures, and business models that have altered the traditional banking and financial services delivery paradigm.

**Finance:** Finance is the study of money and how it is used. It specifically addresses the issues of how a person, organisation, or government obtains the necessary funds - known as capital in the business context - and then spends or invests that money.

**Financial Inclusion:** Financial inclusion occurs when individuals and companies have access to useful and affordable financial goods and services that fit their requirements and are delivered in a responsible and sustainable manner.

**Financial Technology:** Financial technology (Fintech) is use of technology and innovation associated with it, to pitch against the traditional and old ways of providing financial services.

**Inclusion:** The action or state of including or of being included within a group or structure.

**Poverty:** Poverty is a situation in which a person or community does not have the financial capacity and required essentials for a minimum standard of living.

**Quality:** The change in a financial offering to match the yearnings of a consumer who has accepted the service offering.

**Reduction:** The action or fact of making something smaller or less in amount, degree, or size.

**Semi-Urban:** Areas where large number of people stay, whether by force or voluntarily and do not have the attributes of a city.

## Endnotes

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<sup>11</sup>I. Appiah-Otoo, & N. Song, *The Impact of Fintech on Poverty Reduction: Evidence from China*. **Sustainability**, 13(9), 2021.

<sup>12</sup>Y. Yang, & C. Fu, *Inclusive Financial Development and Multidimensional Poverty Reduction: An Empirical Assessment from Rural China*. **Sustainability**, 11(7), 2019.

## Chapter Two

### Review of Related Literature

This chapter addressed a review of literature pointing out areas of agreement and disagreement of the scholars. Hence, a gap in knowledge is created where this study is interested, to fill financial inclusion becoming, in Nigeria, a solution for the reduction of poverty. This chapter is classified into:

- 2.1. Conceptual Review
- 2.2 Theoretical Framework
- 2.3 Review of Empirical Studies
- 2.4 Summary of Gaps in Literature

#### **2.1 Conceptual Review**

##### **2.1.1 Concept of Poverty Reduction**

Growth in the economy as a whole has a significant impact on the decrease of poverty. Prior to the development of contemporary agricultural technologies, such as nitrogen fertilizers, herbicides, and irrigation techniques, food shortages were widespread. The beginning of the Industrial Revolution resulted in rapid economic development and the eradication of widespread poverty in what is today regarded as the developed world. The global GDP per person more than quadrupled in the 20th century. Only approximately 20% of people in the world did so in 2001, compared to 75% in 1820 who made less than a dollar per day.

Economic liberties are currently a barrier to further economic growth. Extending property rights to the poor, especially in regards to land, is necessary for economic liberalization. Technology, such as mobile banking, can make financial services, particularly savings, available to the underprivileged. Investment can also be deterred by ineffective institutions,

corruption, and political instability. Growth is aided by aid and government support in the areas of infrastructure, health, and education.

Improving the living conditions of those who are already poor is a part of reducing poverty. Better lives are made possible by aid, notably in the medical and scientific fields, as seen in the Green Revolution and the smallpox eradication. The large percentage of linked aid, which requires receiving countries to purchase products that are frequently more expensive and solely from donor countries, is one issue with today's development assistance. However, that tiny shift in how individuals spend their lives in wealthy countries might end global poverty<sup>1</sup>.

Reduced poverty is understood to be important for human wellness and a measure of a man's capacity to meet the necessities for growth and development. This idea is currently prevalent in all development initiatives that can be linked to the United Nations, a key player in the fight against poverty. Similar to how many nations gave poverty reduction high priority under the United Nations' Millennium Development Goals (MDGs), they are doing the same under the Sustainable Development Goals (SDGs)<sup>2</sup>. These objectives have forced all countries to come up with solutions aimed at eradicating hunger, establishing food security through improved nutrition, promoting sustainable agriculture, and lifting households out of poverty by the year 2030, or sooner. Numerous studies on poverty in Nigeria have been done over the last 20 years.

Only a small number of these studies have looked at the effect that particular household endowments have in determining poverty status. These studies have looked at the country's poverty profile. It is impossible to overstate how important household assets are to eradicating poverty since they increase agricultural productivity. When seen in a broader context, household endowments influence the kinds of livelihood strategies that farmers choose. The ability of the household members to engage in lucrative non-farm activities and to receive more money from the farm depends on their state of health.

Poverty, which is the condition of having insufficient money to maintain a minimal quality of living, continues to be a significant problem for African nations<sup>3</sup>. Living in poverty, according to the World Bank, means making less than US\$1.9 per day. Additionally, those who live in poverty frequently have low incomes and consumption levels. They also frequently lack access to clean water, adequate housing, wholesome food, sufficient medical care, and improved education, among other things. The average poverty rate in sub-Saharan Africa (SSA) is 41 percent, which means that there are now 413 million more poor people in the sub-region than there were in 1990. Financial exclusion contributes to the ongoing status of poverty and financial hardship in developing nations.

Low income or income that is insufficient to cover one's fundamental requirements is considered poverty. Living in a subpar environment marked by slums, filth, and egregiously insufficient social amenities including hospitals, schools, and recreation centers is referred to as being in poverty<sup>4</sup>. Some people see poverty as an expression, while others see it as a condition of the state of mind of an individual or the way in which an individual sees themselves in relation to others. To some people a person is poor if he or she earns less than the average income of the total population or if the individual comes from the lowest income class. The difficulty in estimating people's earnings for categorization reasons is a concern with this definition, particularly for developing and largely agricultural countries like Nigeria. The majority of Nigerians are not in wage employment but are mostly self-employed in the informal sector; hence it is difficult to estimate their incomes.

The term "poverty," which was coined from the Latin word "pauper," meaning "poor," is now commonly used around the world. It has long been acknowledged as a global issue. The signs of poverty include hunger, a lack of a place to live, bad housing, poor health, a lack of education, the inability to read or write unemployment, a high infant and child death rate, and a persistent sense of dread. It is described as the circumstance in which a person lacks both a

sense of self and is unable to meet basic needs like food, shelter, clothing, or education. The researchers believed that the government denied people's economic and social demands, as well as their food, healthcare, educational, and literacy needs<sup>5</sup>.

Extreme poverty, according to the World Health Organization(WHO), is a condition of life that is so impoverished by disease, illiteracy, starvation, and filth that it prevents the person from realizing their full potential<sup>6</sup>. This degree of poverty is a social liability which lies beyond traditional market forces. Perhaps, the less problematic is relative poverty, which simply deals with poverty in terms of appropriate comparative groups in the society. This is defined to include those who earn less than one third of the average per capital income in a country.

Poverty reflects deprivation in health, education, knowledge and communication, the inability to exercise human rights and the absence of dignity, confidence and self-respect. The basic needs can be categorized as primary and secondary. Primary needs are for food, water, shelter, and shelter; secondary needs are for economic, social, cultural, and political services including health, education, security, and liberty; freedom of expression and of religion; access to jobs that are productive; basic infrastructure; and credit. Most people agree that poverty is a complex phenomenon that can have many different definitions and conceptualizations. Both an absolute and a relative definition of poverty were given. Absolute poverty, according to some, is the inability of a household to earn enough money to cover all of its basic expenses, including those for food, clothing, shelter, transportation, and education<sup>7</sup>.

In general, absolute poverty is condition of life so degraded by disease, illiteracy malnutrition and squalor that it prevents the individual from realizing his potential. This degree of poverty is a social liability which lies beyond traditional market forces perhaps, the less problematic, is relative poverty, which simply deals with poverty in terms of appropriate comparative

groups in the society. Those who make less than one-third of the average per-capita income in a nation are included in this definition. In this regard, define poverty as a state in which one has a low or insufficient income to support one's essential necessities. Living in poverty means being surrounded by slums, filth, and bad/shocking inadequate social amenities including hospitals, schools, and recreation centers. While some perceive poverty as an expression, others believe it to be a reflection of a person's mindset or how they view themselves in comparison to others<sup>8</sup>. According to some, someone is considered poor if their income is below the national average or if they belong to the lowest economic strata. The issue with this definition is how difficult it is to determine people's incomes for classification reasons, particularly in developing countries with a large agricultural population, like Nigeria. Since the majority of Nigerians work for themselves in the unorganized sector, it is difficult to quantify their incomes<sup>9</sup>.

In broad term, the poor are the proportion of the population whose incomes are insufficient to meet their basic needs to satisfy certain minimum standard of living. A person is poor if the person thinks he is poor regardless of the total amount of money he earns. A person for example, may consider himself poor if his income falls far behind that of the members of his reference group (i.e. the group he feels he belongs to). The problem with this definition is that poverty cannot be measured.

People who lack basic freedom of action and choice are more vulnerable to unpredictable external factors including violence, inclement weather, disease, economic shocks, and natural disasters. They are the victims of the state's corruption and arbitrary actions. Poverty is characterized by lack of access to health care, education, knowledge, and communication, as well as the inability to exercise one's basic rights and the absence of self-respect, dignity, and confidence. There are primary and secondary needs, respectively. Food, water, shelter, and shelter are considered primary requirements. Economic, social, cultural, and political services,

such as security, education, liberty, and the right to practice one's faith and speech, as well as basic infrastructure and credit, are considered secondary needs<sup>10</sup>.

### **Level of Education and Poverty Reduction**

Many of the systemic problems that have contributed to the delay in the development of disadvantaged communities will alter as a result of education that is directed towards marginalized and underprivileged populations. The transmission of poverty down the generations can be stopped by education. Health, nutrition, economic development, and environmental protection are other areas where education has been shown to have an impact (UNESCO: Sustainable development begins with education)<sup>11</sup>. Since 2002, Norway has given the Global Partnership for Education more than 1,4 billion NOK, ranking among the top four contributors. Since 28 of the 59 nations receiving assistance through the alliance are fragile states, their objective is to target marginalized communities. Civil society organizations, many of whom concentrate on inclusive education, receive 20% of the overall budget for help, to education.

Poverty and education are mutually exclusive. Because education transmits information and skills that support greater wages, the population's degree of poverty will decrease as education levels rise. By raising earnings/income or wages, education has a direct impact on reducing poverty. Regarding "human poverty," the indirect impact of education is crucial because as income rises as a result of education, it becomes easier to meet basic needs and boosts the standard of living, both of which imply a reduction in human poverty. The provision of basic necessities like shelter, water, sanitation, and access to healthcare is made easier by education. It also has an impact on how women behave in terms of choosing when to have children and how to arrange their families. It is acknowledged that the presence of such necessities boosts productivity and wages, lifting individuals out of poverty. There are two ways to look at the connections between education and poverty in general: Firstly,

education spending improves the production and capabilities of low-income households. It raises both the income level and the standard of living as a whole (human development). Second, poverty is a significant barrier to obtaining a higher degree. Education attainment is impacted by poverty on three different levels. The first is resource-related (learning and financial resources), the second is the creation of such societal forces that deform the thinking of impoverished students, and finally, when poverty engulfs any institution, the teaching standards decline. At the micro level, children from impoverished families do not attend school, and at the macro level, poor countries often have low levels of education<sup>12</sup>.

The inverse relationship between education and poverty has been established, but there is disagreement regarding the educational levels; specifically, whether primary education is sufficient for the intended results or whether attention must be paid to all educational levels (primary, secondary, and higher education) at once. Even the United Nations' Millennium Development Goals (MDGs) and the World Bank's suggested Poverty Reduction Strategy Papers (PRSP) place a strong emphasis on primary education and girls' education.

The human capital that makes people productive and raises their level of living is made up of the education and health endowments of the individual. It takes human capital to effectively use natural and physical resources, as well as technology and talents. Pakistan, a developing nation, has taken ownership of the strategy plan for reducing poverty, which is one of the primary foundations of human capital. The achievement of development or poverty eradication is impossible without the formation of human capital, and education and skill acquisition account for a substantial portion of human capital accumulation<sup>13</sup>.

The direct linear association between education and incomes is another noteworthy aspect of education's substantial contribution to reducing poverty. In Pakistan, researchers found that each additional year of education raised a worker's monthly wages by 7.3%. Earnings will rise by 37% if ten years of education are attained compared to no education. Additionally,

each extra year of education raised earnings by 3% at the primary level, 5% at the secondary level, and 7.1 to 8.2 % at the higher/tertiary level. Earnings grew by 2.5% for every extra year of technical training. The ability of education to boost the earning potential of the underprivileged and make them more productive is thus pretty clear.

The primary, secondary, and tertiary levels of education are important for raising the household's per capita spending. Education is important from the standpoint of general welfare since expenses include non-food things. Additionally, education levels play a big role in lowering the likelihood that the household will be impoverished. It would be incorrect to claim that in order to promote growth, development, and the eradication of poverty, we should wait until primary education has been made universal. Instead, we should focus on post-primary education, which serves the same purpose as primary education. The foundational level of human capital is primary education, but secondary and higher education as well as investments in science and technology will lead to an acceleration and maintenance of economic growth and development. According to the data, basic education, literacy, and illiteracy are all positively correlated with poverty rates in India, however middle and secondary education are inversely correlated. In addition, secondary and higher education are inversely connected to poverty in the simple regression, making them essential in the relationship between education and poverty in addition to basic education. It has been seen that the likelihood of being poor is higher even for the lower level of education.

They came up with the notion that growth is a significant factor in eradicating poverty and primary education completion is not so important because sometimes overall growth is more important for the welfare of the poor compared to the provision of basic education. As a result, the income of the poor raises one for one with average income (growth), but the primary education attainment has a very limited impact upon the income of the poor. We also have instances where the inverse relationship between education and poverty cannot be

validated. The causes are external elements that have an impact on the inverse relationship. Evaluation of those factors with regard to Southern African countries in the 1990s and the beginning of 2000 revealed that, despite educational indicators that were notable, such as the average primary school completion rate of 84.6 percent in the 12 states for which data were available out of 24 and the secondary school dropout rate of 15.4 percent in the years 1997–2003, there were still significant educational indicators. Additionally, the adult literacy rate in the southern African states was 75% in 2000, compared to 74% in emerging economies and 52% in least developed nations, yet these figures show no appreciable progress in the fight against poverty. In some circumstances, poverty grew or stayed the same. Other measures of human deprivation, such as access to clean water, mortality rates below five per 1,000 live births, the prevalence of HIV, and infant mortality rates below five per 1,000 have made very modest progress. The obvious facts revealed the causes, including high unemployment rates (falling financial returns to education), limited access to productive resources like land and capital, rising HIV/AIDS, lack of sustained growth, high population growth rates that also demand more and more human capital, lower quality standards of education, and an excessive reliance on IMF structural adjustment programs that encourage reductions in government investment in social services and infrastructure. In the same direction, the failure of 1990s educational expansion to reduce poverty in Latin American countries divulges the reasons which are as follows: firstly, the inequality of educational opportunities, which results in the benefit to only those persons who were not so much poor.

Secondly, according to one estimate the evaluated educational threshold for Latin American countries is 12 years of schooling but the government only emphasize upon the primary education. Thirdly, with the educational expansion the group of persons with higher education and high earnings increases and the educational level of the large labour force

segment rises also but the former effect increases inequality (that causes poverty) and the later one does not. In 1990s the former effect dramatically dominates, that is why poverty persists<sup>14</sup>. Education unquestionably fosters social solidarity, which leads to the reduction of global poverty. However, if social disparity is growing as a result of the aforementioned reason, it will lead to social distinction and skew efforts to eradicate poverty in people.

### **Employment and Poverty Reduction**

Documents from certain international organizations and the research of numerous experts in this sector all support the idea that employment is crucial in the battle against poverty and social isolation. As a result, the European commission emphasizes that employment is still the best defense against poverty and social exclusion and that supporting quality employment is crucial to mitigating the effects of the current crisis. The need of boosting employment in reducing poverty is further underscored by research that demonstrates how difficult it is to achieve sustained poverty reduction, growth with equity, and decent work for everybody due to the current global employment scenario. Increased open unemployment, rising informality, pervasive causality, crowding in subsistence activities, and marginalization in low-productivity jobs are all factors that slow down growth and reduce the labor intensity of productive activity<sup>15</sup>.

One of the most crucial avenues through which economic expansion might result in a decline in poverty and less income inequality is employment. A high rate of economic growth, coupled with high employment intensity, is a requirement for the decline in poverty, yet it might not be enough. In order to raise the incomes of the poor, productivity and earnings (real wages as well as profits from self-employment) must rise to a suitable level. Thus, the process by which output development causes an increase in productive and lucrative employment, which, in turn, causes an increase in the incomes of the poor and a reduction in poverty, is the link between economic growth, employment, and poverty reduction. Poverty

reduction was a result of the economic growth process over the past ten years, but it would suffer in light of the current global market instability. It is acknowledged that creating work is the most enduring strategy to combat poverty. In order to ensure that financial reforms occur, labor markets operate effectively, there is free movement of people, goods, and services, and natural resources are used sustainably, complementary measures are also required.

The degree to which money from working enables workers and their dependents to acquire the products and services required to meet minimal needs is what determines the relationship between poverty and employment. In order to reduce poverty, the labour market needs to be filled with regular, high-quality jobs. The interrelated issues of employment and poverty vary among different populations, particularly between women and men. Even in the same socioeconomic environment, women and men experience various types of poverty and have different possibilities and barriers to finding work. A successful plan for reducing poverty must therefore address both general socioeconomic and gender-specific policy challenges.

Employment fosters equality between men and women and helps to reduce poverty. However, it is crucial to first go over the circumstances in which employment benefits equality and well-being. First, the pace of increase of total employment must be high enough to absorb new workers into well-paying jobs and to address both the problem of current unemployment and underemployment. Second, the allocation of new jobs among those with earnings below and above the poverty line for both individuals and families should be equitable. Third, in order to secure enough compensation, social protection, and respectable working conditions, employment should be connected to a social wage and the enforcement of core labor norms. The aforementioned necessitate the existence of the proper macroeconomic framework, social and labour market policies, and effective labour market institutions, all of which are intended to allow equal access to lucrative and decent employment for men and women.<sup>16</sup>

There is convincing empirical evidence across countries and in different regions of the world that employment does have a direct and positive impact on poverty.

Urban poverty and unemployment are significant issues in emerging nations, especially in low-income neighborhoods where citizens are more likely to experience hardship. The problem is worsened by rising unemployment rates in South Africa, where they are already extremely high. Particularly during the global economic crisis of 2008–2009, the country's ongoing job losses tended to have a greater impact on low-income communities with lower levels of education and vocational ability. The earning potential of the impoverished is significantly reduced by their lack of education and practical skills. At the end of 2013, the average unemployment rate in South Africa was 25.5%, but the figure for black Africans was reported to be 29% during same time and the Unemployment rate in Nigeria was 33% in 2021. Local poverty and unemployment often have extremely significant racial and gender components. Due to apartheid laws that restricted chances for personal growth and, consequently, the capacity to acquire assets, poverty, particularly among the black people, tended to be more intergenerational<sup>17</sup>.

### **Household Status and Poverty Reduction**

Because the experiences of other farmers in a person's social circle are crucial for building trust, gaining knowledge, and working together as a team, the home endowment also affects how farmers adopt new technologies. A household's ability to produce marketable surplus depends on the amount and quality of land it owns, and having animals that can efficiently work the farm saves time and energy. In addition, the declining level of life might be linked to a lack of resources like jobs, education, healthcare services, wholesome food, clean water, acceptable sanitation, inadequate infrastructure development, and limited access to land, capital, or credit. Endowments determine what is done, how it has been done, and the household's capacity to handle calamity, illness, job loss, and other types of stress related to

agricultural situations<sup>18</sup>. Furthermore, the household endowment is capable of overturning opportunities for members of the household while it may enhance for others.

As a result, maintaining a high and long-lasting quality of life depends on how rural households' resources are distributed. The lack of access to agricultural inputs like land, fertilizer, loan options, and extension services is a defining characteristic of rural households. As part of the characteristics of a rural home in Africa and Sub-Saharan Africa, it was recognised that there were also a lack of suitable security, education, storage, and processing facilities<sup>19</sup>. Despite the difficulties they confront, rural residents play a crucial part in agricultural output, which has a significant impact on the country's economy. In addition to raising animals to feed the burgeoning population, rural residents who are involved in farming are also in charge of supplying the raw materials required for the expansion and development of industries. Agriculture has been one of the most significant and influential determinants of Nigeria's GDP since 1960, according to research on the composition and expansion of Nigeria's GDP. Agricultural program inconsistency, poorly implemented agricultural structures, and lack of market access for goods and services produced are the challenges faced by rural farming households in reducing the impact of poverty, despite the enormous influence they have on food production and distribution<sup>20</sup>. Additionally, it has been accepted that efforts to alleviate poverty in Nigeria have not been successful due to rural residents' non-participation, poor targeting methods, and failure to directly target poor rural households<sup>21</sup>.

Given the current state of the economy in modern society, the household is selected as the fundamental unit for analyzing poverty rather than the individual. The prevalence and depth of poverty are increasing in Nigeria, particularly in the north-eastern and north-western geopolitical regions of the country, according to observations of the current state of poverty in a variety of rural households that were made using quantitative and qualitative methods<sup>22</sup>.

69.0 percent of households in Nigeria were assessed to be poor in 2010, which means that more than 113 million people are anticipated to be living in poverty. Although Nigeria's GDP increased from USD 61.1 billion to USD 405 billion, reaching an all-time high of USD 569 billion in 2014, the nation has so far added nearly 90 million people to poverty between 1981 and 2016. (Olayinka2019). Given the existing circumstances, it is estimated that roughly 50% of the population of the country is thought to be living in extreme poverty<sup>23</sup>. This critical state has also positioned Nigeria as the nation with the highest rate of extreme poverty in the world. An appropriate approach and analysis will assist in proffering solutions aimed at improving the welfare conditions of rural households<sup>24</sup>.

In urban and rural areas, poverty was found to be more severe. Due to gender bias, homes led by women were more likely to be classified as poor. Chronically poor households were often those where the head of the household was unemployed. Poor homes frequently have high dependency ratios, with the majority of household members being under the age of 15, according to a number of surveys periodically conducted by Statistics South Africa (Stats SA). The likelihood that the head of the household is poor decreases dramatically as education level rises. More education also boosts the productivity of other family members, potentially by convincing them to pursue an education or a skill, in addition to having a favorable effect on household heads' productivity and earnings.

Not only is poverty more prevalent in households headed by illiterate or less educated people, but it also affects female-headed households more adversely than male-headed ones. The female portion of our society is significantly less fortunate than the male one. On the other hand, those poor households headed by women badly lack the necessities of life. Their living conditions, health, access to clean water and sanitation, and rubbish collection system are all appalling. All these things affect the productivity of poor persons and they cannot come out

of their vicious poverty circles. The provision of education can break this circle through giving a rise in earnings and fulfilling basic needs<sup>25</sup>.

Wages to the farm-workers, who, hired for the unskilled, manual work on the farm, are not responsive to education attainment. Wages and productivity in non-farm activities rise with education at an increasing rate as education rises. On the other hand the farm productivity responds significantly only to the primary education. It has been observed that in semi-urban areas the education of the head of the household is negatively and dependency ratio is positively related with the poverty status of the household. In semi-rural areas, asset distribution, especially land and livestock play an important role in differing poor and non-poor. The role of domestic and overseas transfers also appeared significant against poverty and its role is much more effective in urban areas.

Food insecurity and poor nutrition is due to poverty and unequal distribution of resources, but it is also due to insufficient knowledge of production methods and on nutritional facts. Children who have poor health or who are hungry will not come to school – or their performance will be impaired by poor health and nutrition. Many children in developing countries face severe nutritional and cognitive deficits from the beginning of life. Estimates suggest that up to one-eighth of all children in developing countries are born malnourished and that 47% of children in low-income countries—continue to be malnourished before the age of five. Early malnutrition weakens children's physical and cognitive potential and even their non-cognitive traits such as motivation and persistence.

Although related but not the same, the concepts of vulnerability and poverty (which is also multidimensional) are distinct. For instance, rather than being an ex-post idea, the vulnerability is an existent (forward-looking) one. Given the welfare measure and the poverty threshold, poverty status can be observed throughout a certain time period, but household vulnerability cannot be directly observed; it can only be projected. The ex-post realization of

a state, the ex-ante probability of which can be taken to be the household's level of vulnerability, is the observed poverty status of a household, which is simply determined by whether or not the household's observed level of consumption expenditure is above or below a predetermined poverty line<sup>26</sup>. Therefore, while it is possible to make statements about whether or not a household is currently poor, it is not possible to make statements about household's level of vulnerability. Also, while we can estimate or make inferences about whether a household is currently vulnerable to future poverty.

Traditional poverty measures ignore a number of crucial aspects of household welfare, however vulnerability measures allow for the quantification of both the loss of welfare caused by poverty and the loss caused by any of a number of other causes of uncertainty. Again, while vulnerability is concerned with a high likelihood of experiencing a future deficit, poverty, on the other hand, is about not having enough today. Although the poor are frequently also vulnerable in practice, it is important to note that these two groups are not always the same<sup>27</sup>.

There are two components to the vulnerability index. The first is caused by a low level of consumption and a little amount of variation, while the second is caused by a high level and a large amount of variation in consumption<sup>28</sup>. However, measuring income and consumption dynamics and variability requires specific types of data: These include cross sectional data and longitudinal data. Relying on single cross-sectional data requires making stringent assumptions regarding the stochastic process generating consumption e.g. that cross sectional variability proxies' interpersonal variation. These sets of data are always available because they are relatively cheaper to obtain especially for developing countries.

Cross-sectional data that have been carefully gathered can tell a lot about risk and vulnerability, especially if they are supplemented with secondary sources, community research, and qualitative field work. On the other hand, longitudinal household data

considerably expand the area of risk and vulnerability assessment since they allow for the tracking of the same household over a sufficient amount of time. These make it possible to directly estimate the consumption intertemporal variance at the household level without the requirement for firm assumptions.

This should not be interpreted to mean, however, that longitudinal data are both necessary and adequate for vulnerability assessments because their scarcity and narrow cross-sectional coverage make them less than ideal for policy analysis, which calls for nationally representative samples<sup>29</sup>. They are also time-consuming to collect and their collection requires strong data documentation skills so that interviewers can find individuals and households in order to re-interview them. However, the consensus in literature is that longitudinal data are most appropriate for the study of vulnerability. It is in this context that this study utilized longitudinal data in the examination of vulnerability of households in Ibadan Metropolis.

### **Categories of Poverty**

- i. In the first instance, it was thought to be an extremely debilitating or chronic illness. Unlike most other forms of poverty, this type of poverty does not only affect basic needs but also penetrates deeply into the mind of the individual who is experiencing it. This is the most widespread condition in Africa, where people are starving for ideas and inadequate even in their mental wellbeing, in addition to missing access to basic necessities of existence like as food, clothing, and shelter.
- ii. The second form of poverty is known as relative poverty. When compared to the level of life available in other parts of the world, this is stated as follows: People's living standards in various areas within a society are being compared, and one will be able to assess the comparability based on what they are experiencing at any given point in time. While one individual may be considered to be in comfort, the same situation

may be seen to be in a state of discomfort by another. When comparing the level of living in industrialized and developing nations, this is particularly noticeable.

- iii. Masked poverty is a third form of poverty that refers to a situation in which individuals or organizations are researching the economic advantages of being poor as a method of attaining wealth. Specifically, this is the case in certain Nigerian states where organizations have continued to undermine the government's efforts to improve the living standards of the people, out of fear that doing so will result in them losing the economic gains they have accumulated as a result of the harrowing living conditions. This specific sort of poverty is particularly prominent in locations where there is a high level of corruption and systemic inefficiency, and the repercussions of this type of poverty are frequently lethal.
- iv. The fourth and last group, dubbed "mind poverty," is described as follows: A person or individual in this situation is unwilling to accept themselves as they are. Worried people typically believe they are being undermined, and they are never satisfied with their current circumstances<sup>30</sup>.

However, despite statistics indicating that the economy expanded at an average rate of 7% between 2009 and 2011, the plague of poverty in Nigeria continues to rise. The recent rebound from recession is also a reflection of a rising economy, but none of this is reflected in the lives of the general public, who are still mostly unemployed and living in substandard conditions. From the accomplishments and adaptations of developed economies, as well as from the recent emergence of Asian Tigers, it is clear that if governments are willing to stay focused on areas and activities that enhance people's livelihoods, as has been evidenced in the past, poverty can be reduced to the bare minimum. Most of the time, poverty is synonymous with or linked with financial exclusion, which refers to those who, as a result of their social and economic limitations, are either directly or indirectly barred from formal financial

services, such as bank accounts<sup>31</sup>. Since they have been denied access to official financial services, they have been left with the alternative of relying on informal lenders. Because it has the potential to increase capital formation, financial sector deposits, and intermediation, financial inclusion is viewed as a critical requirement for economic growth by the authors.

### **Measurement of Poverty**

The poverty head count, which is determined by counting the number of people whose earnings are below the absolute poverty level, stands out among the various methods of measuring poverty (H). According to the World Bank, severe poverty is defined as making less than \$1.25 per day in purchasing power parity (PPP), medium poverty as having an income of less than \$2 per day in PPP, and abject poverty as having an income of less than \$0.25 per day in PPP. Extreme poverty, according to the World Bank, is defined as making less than \$0.25 per PPP day. In contrast to the headcount ratio, the poverty ratio calculates the proportion of the population that lives below the poverty line of the total population.

This additional measure of poverty was created by the United Nations Development Programme in 2006 and is known as the Human Poverty Index (HPI) or the Human Development Index (HDI). There are three separate zones of deprivation that are assessed in terms of poverty levels. Among these are the bare essentials of existence, a rudimentary education, and financial provision for the family. According to a United Nations Development Programme study conducted in 2006, when a death occurs before the age of forty, there is proof of poverty. The proportion of people who are illiterate is used to measure basic education, while the proportion of persons who do not have access to clean drinking water as well as the share of children who are overweight or underweight are used to assess economic provision. One further way to quantify poverty is through the Multi-Dimensional Poverty Index (MPI), which is predicated on the same three measures of poverty as the Human Poverty Index and the same three measures as the Human Development Index (HPI).

Unlike HPI, which focuses on collective levels of information, MPI is more directly focused on poverty measurement, owing to the fact that MPI focuses on individual level data rather than collective levels of information<sup>32</sup>. The three stages of development on which the study focuses its attention are health, education, and living conditions.

### **Measurement of Inequality**

The way that money is allocated among people has a direct impact on inequality. There are two approaches to measure and assess equality: quantitatively and subjectively, respectively. In general, there are two different types of income distributions: the actual distribution of revenue, which is more prevalent, and the size/personal distribution of money (distributive factor shares of income).

The development of revenue is significantly influenced by working capital, land, capital, and entrepreneurialism, and the operational distribution decides how much of that revenue is split among the many sources of production. Regardless of the source of that income, personal income distribution and size are both concerned with the total amount that individuals or families earn<sup>33</sup>. It is the most often used common metric, and it naturally places people and families in lowest to highest of income, as well as dividing the general population into discrete categories depending on their individual income levels. Instances include the distribution of income by quintiles and deciles, the Lorenz curve which is a graphical representation of income or wealth within a population, and the Gini coefficient which is a statistical measure of income inequality in a population, to name a couple of concepts.

#### **2.1.2 Concept of Financial Technology**

The term "financial technology" (FinTech) referred to the technology utilized in the back-end infrastructure of well-established financial organizations. FinTech now includes various sectors and industries, such as education, retail banking, fundraising and non-profit, and

investment management, using new technology to improve and automate the delivery and use of financial services, from mobile payment Apps to cryptocurrency. However, as technology and digitalization increased over time, its definition took a more consumer-oriented approach<sup>34</sup>. It can take the shape of a Software, Service, or Business that offers cutting-edge ways to improve financial operations through the disruption of conventional techniques. Businesses that offer speedy check cashing, payday loans, online mortgages, and related services are a few examples of fintech companies. Using specialized software and algorithms that are run on computers and, increasingly, smartphones, FinTech helps businesses, entrepreneurs, and consumers manage their financial operations, procedures, and lives<sup>35</sup>.

The term "financial technology," or "fintech," refers to the use of technology and innovation to the provision of financial services through software. FinTech software facilitates more convenient service delivery at lower labor costs. Blockchain, big data, AI, APIs, and ToI are just a few of the technologies employed in fintech. These technologies are employed to deliver a variety of services, including cryptocurrency mining, asset management and trading, remittances and payment settlement, online savings and loans, customer service, and much more.

Technology-driven financial innovation known as fintech has accelerated financial development. China has been at the forefront of the development of digital financial services thanks to a thriving fintech sector and a sizable user base. Fintech has advanced significantly more quickly in China than it has in the US in key areas, like payments, wealth management, and online insurance. Three stages can be identified in the evolution of fintech. The finance IT stage was the initial stage (2005–2010). During this phase, IT technology aided financial institutions' operational effectiveness. The second stage, which lasted from 2011 to 2015, was internet finance. Internet technology was created during this phase to support financial, payment, investment, and information intermediary services. The third stage, which began in

2015, combines traditional finance with new financial technologies, such as big data, blockchain, cloud computing, and artificial intelligence<sup>36</sup>.

There is no accepted definition of fintech, despite the widespread attention given to the industry's rapid rise worldwide. Fintech, according to the Financial Stability Board (FSB), is financial innovation made possible by technology. A cross-disciplinary discipline combining finance, technology management, and innovation management was later characterized as fintech. The term "fintech" was used to describe a group of newly developed digital technologies that have been used to financial services or are anticipated to do so in the future<sup>37</sup>. Fintech refers to the application of technology to new and enhanced financial services. A group of developments and an industry centered on the use of recently created digital technologies for financial services are referred to as fintech. In September 2019, the Financial Technology Development Plan (2019–2021) was released, and fintech was defined as the use of emerging technology.

It is clear from the many definitions of fintech that the term refers to a wide-ranging, intricate phenomenon. While some authors concentrate on technological breakthroughs, certain authors concentrate on the financial services sector that uses technology. Fintech, which gives a deeper degree of information, is the fusion of finance, technology, and innovation. On the other hand, a FinTech Provider is defined as an extension of a FinTech as a person or business that makes use of a technology platform, whether online or offline, to offer new financial services or to enhance the delivery of current financial services in a way that is more effective and accessible to its users. The question of whether any FinTech used by FinTech providers significantly lowers the obstacles clients face when requesting a financial service from conventional banks is still up for dispute<sup>38</sup>.

FinTech providers in the financial services sector either compete with Banks or complement the functions of banks to their customers. Although some FinTech companies provide

financial services at a higher cost than the Bank, but due to the lengthy process for obtaining Bank loans, people turn to non-Bank providers, as Customers that seeking a Bank loan on Monday are unlikely to receive it the same day as existing Banking regulatory practices such as internal risk management procedures require Banks to spend a considerable amount of time to assess each individual loan request. As a result, despite the high cost of obtaining financial services from Non -Bank providers, individuals and Companies with low and/or volatile income still prefer to use the services of non-bank providers.

Using FinTech Providers result in benefits such as:

- Quicker financial services with a seamless process, making it easier for low income individuals to manage their financial obligations.
- FinTech providers face fewer regulations, or will be unregulated in some countries, allowing them focus on improving their financial technology while reducing costs.
- FinTech providers can partner with Banks which can help them reduce operational costs, improve the quality of their intermediation activities, and become increasing sustainable.
- Easier access to instant emergency funds or loans in small amounts for individuals with low and poor incomes, and the needy.
- Increased financial convenience to users by access to services from any location where Consumers can access the internet<sup>39</sup>.

Measurement of Financial Technology

Fintech components are divided into four groups:

1. Robo-advisors
2. Peer-to-peer loan and deposit platforms
3. Crowd funding, and

4. Effective payment methods.

Additionally, fintech incorporates wealth management, lending, insurance, and banking technologies as well as payment and regression technologies. Similar to this, internet technology, big data, artificial intelligence, distributed technology, and security technology are some of the important fintech technologies. Identify the following five components of fintech ecosystems, focusing on various fintech contexts:

1. Governments
2. Financial clients
3. Traditional financial institutions
4. Technology developers
5. Fintech startups<sup>40</sup>.

To show the level of fintech development, Findexable constructed the Global fintech Index, an overall score indicating the quantity and quality of companies in the fintech ecosystem. The Global fintech Index, which ranks 65 countries, more than 230 cities, and 7000 companies worldwide, is the world's first global ranking of fintech ecosystems. Although the Global fintech Index is widely adopted, it partially covers only the political and economic environment of fintech development. The fintech industry has rapidly grown since 2013. The web crawler technology and word frequency analysis to construct a bank fintech index, which measures the development of fintech in the banking industry. Subsequently, fintech used principal component analysis to construct a financial technology index composed of four dimensions:

1. Credit, deposit and capital-raising services,
2. Payments, clearing and settlement services,

3. Investment management services, and
4. Market support services<sup>41</sup>.

Big data, artificial intelligence, distributed technology, technological interconnection, and technology security are the five components that make up the fintech index, which was intended to measure the financial services dimension. The technological factor is the primary emphasis of the fintech index. The Peking University Digital Finance Research Center's municipal digital financial index, which was created from the demand perspective rather than the industry supply perspective, served as the foundation for the fintech index<sup>42</sup>.

### **Financial Technology and Poverty Alleviation**

The advancement of financial technology benefits efforts to reduce poverty in a variety of ways. Fintech and poverty reduction have become highly attractive partners through financial inclusion. Because it can reach financially disadvantaged communities, fintech has sped up the growth of financial inclusion. Fintech is advantageous for the growth of inclusive finance since it can provide consumers with affordable, convenient, and secure financial services<sup>43</sup>.

One of the main growing factors behind the fintech industry's explosive expansion has been inclusive financing. Due to its accessibility, affordability, and safety, Yu'eobao, crowd funding, mobile banking, third-party payments, and Yu'eobao are a few examples of essential approaches to promote financial inclusion. Financial inclusion has gained widespread recognition as a potent instrument in the fight against poverty since the G20 conference in 2010. Macroeconomic and household studies have typically shown that the degree of inclusive financial development had a major favorable impact on income poverty<sup>44</sup>.

Few studies have looked specifically at how Nigerian poverty may be affected by fintech. Fintech use by farmers has good benefits on poverty reduction through enhancing financial access, distributing information, fostering social connections, and encouraging rural e-

commerce, according to research on the impact of fintech on farmers' vulnerability to poverty in China. Using data from household surveys, the growth and distribution effects of fintech development complement financial development and economic growth in alleviating poverty in Nigeria. Effect of fintech development on reducing poverty, although issues with fintech index formulation and heterogeneity of poverty have received little attention<sup>45</sup>.

### **FinTech Services in Nigeria**

Major services rendered by these firms include:

- Payments
- Lending
- Savings
- Investments
- Insurance
- Provision of technological infrastructure for efficiency of traditional financial institutions

FinTech uses technology to provide financial services; it increases broadband penetration, which supports the delivery of financial services in rural areas; it offers consumers customized services (digital banking, mobile lending, and savings); it supports SMEs' access to credit; it improves the efficiency of traditional financial institutions; and, most importantly, it promotes financial inclusion.

The following initiatives have the highest potential impact if successfully implemented, according to the EFinA 2020 Report, which listed actions that could increase the number of people who are included in the financial system. These include innovation enablement, digital ID, credit infrastructure, digital infrastructure, and technology talent pipeline. The research

praised FinTech for being the industry leader in these fields by utilizing technology to meet unmet customer needs in Nigeria<sup>46</sup>.

### **Technologies that Contribute to the Growth of FinTech (Artificial Intelligence (AI) and Machine Learning (ML))**

Some of the most popular FinTech technologies are artificial intelligence (AI) and machine learning (ML), both of which have the potential to play a bigger role in the finance sector as advances go. Credit scoring, fraud detection, regulatory compliance, and wealth management are just a few of the FinTech Applications of AI and ML. Massive data collections that can't be stored, processed, or analyzed using conventional technologies are referred to as "big data." The most prevalent sources and formats for this data are social media networks and platforms. For FinTech businesses, consumer and market data is extremely valuable. Large databases can be mined for data on customer preferences, spending patterns, and investment behavior, which can then be utilized to create predictive analytics. Predictive analytics refers to predicting how Consumers are likely to behave using past information and mathematical algorithms. The collected data also helps in formulating marketing strategies and fraud detection algorithms.

Robotic Process Automation (RPA) refers to the process of assigning manual, repetitive tasks to robotics instead of humans in order to streamline workflows in financial institutions. The most widespread applications of RPA in finance are Statistics and data collection, Regulatory compliance management, Communication and marketing through e-mails and chat boats, Transaction management.

The capacity of technology to safely preserve transaction histories and other sensitive data is a major factor in the financial industry's widespread use of it. Each transaction is encrypted,

and using block chain technology reduces the likelihood of successful cyber-attacks. Numerous cryptocurrencies also rely on block chain technology as their foundation.

### **Uses of Popular FinTech Applications**

Some popular FinTech applications in use today are in the areas of Crowd funding, Mobile Payments, amongst others, and are discussed below:

**Crowd funding Platforms:** Crowd funding platforms like Kick-starter, GoFundMe, and Patreon are the result of FinTech development efforts. These platforms allow entrepreneurs and early-stage businesses to raise funds from all over the world, bypassing geographical boundaries and reaching international markets and investors.

**Mobile Payments:** Mobile payment applications and gateways are amongst the most prevalent uses of FinTech because they allow users carry out banking activities without physically visiting a Bank. For example, FinTechs like Venmo and Interac allow customers to send and receive money through Smartphones at minimal transaction. Interact was even named the FinTech Company of the Year at the Canadian FinTech & AI Awards.

**Robo-Advisors:** Robo-Advisors are online Investment Management Services that provide digital financial advice based on mathematical rules or algorithms online with moderate to minimal human intervention, to optimally allocate assets and generate portfolios for customers. They allow users of all age groups to engage in investment activities at low fees with minimal manual effort.

**Insure-tech:** These are Insurance firms that have embraced technology as an integral part of their business, allowing them provide tailored insurance services, data security, streamline the insurance process through online claims filing, digital payment processing software, Claims processing Apps and customer communications.

**Reg-tech:** Reg-tech (Regulatory technology) consists of a group of companies that use cloud computing technology through software-as-a-service (SaaS) to help businesses comply with regulations efficiently and less expensively. It focuses on the automation of compliance processes for financial institutions and offers fast and cost-effective management of large amounts of data, including transaction records and compliance documents, such as corporate tax returns.



### **Emergence and Growth of the Fintech Sector with Fintech**

The past years have seen the emergence and growth of the fintech sector with fintech disrupting the traditional approach to financial services. The term "financial technology," or simply "fintech," refers to the delivery of financial services using technology. It is applicable to a broad range of financial operations, such as payments, savings, insurance, investments, and internet trading and commerce<sup>47</sup>. The major factors that drive fintech are technological advancement, consumer behaviour and regulatory condition. For example, in 2012, the Central Bank of Nigeria introduced the cashless policy to reduce the amount of physical cash in circulation and encourage use of electronic payment platforms. This led to a surge in Fintech companies offering payment solutions. To stay relevant and competitive, several banks partnered with these fintech companies and integrated fintech services into their service delivery package.

The COVID 19 epidemic is a recent factor that has affected the fintech sector. Consumer exposure to digital services expanded due to the pandemic, which had a significant impact on consumer behavior. Fintech allowed people to access financial services easily, quickly, and simply while the rest of the world was forced to live in a world with little personal interaction. A favorable climate for the growth of fintech was also generated by the pandemic's acceleration of digitization<sup>48</sup>.

## **Driving Financial Inclusion with Fintech**

The goal of financial inclusion, which attempts to provide financial services to the unbanked and underserved population, has been promoted globally by governments and financial institutions. Despite the fact that financial inclusion is thought to be essential for reducing poverty and boosting economic growth, it is estimated that 1.7 billion adults worldwide lack access to a bank account. This could be due to a variety of reasons, including a lack of access, affordability, or consumer trust. In order to promote inclusiveness, the Central Bank of Nigeria implemented a cashless policy in 2012 with the intention of discouraging the usage of actual currency in transactions. This regulation improved equal access to and use of financial goods for the underserved and underserving population and created a favorable climate for the expansion of fintech businesses offering mobile-enabled services. The Central Bank of Nigeria published a National Financial Inclusion Strategy in 2018 as part of its push for inclusive finance, outlining its execution strategy and goal for financial service distribution<sup>49</sup>.

One fact that the past few years have revealed is that technology and digitization are a major tool for stimulating financial inclusion. This is more so for Nigeria, considering the high penetration rate of mobile phones in the country including rural settlements. To achieve a fully banked Africa, it has been intimated that the goal should be to speed up the convergence between the industry's various players to stimulate financial inclusion. The CBN seems to be aware that regulators must take an active role in addressing this convergence. Initially, Nigerian regulations prohibit non-financial institutions from offering financial services. With the introduction of the Guidelines on Mobile Money Services in Nigeria and the Guidelines for Licensing and Regulation of Payment Service Banks (PSB), this has been reviewed and revised. For the purposes of this article, both Guidelines are primarily interesting because they enable industry players from the fintech, banking, and telecommunication sectors to

come together and offer mobile money services and digital bank services to speed up financial inclusion<sup>50</sup>.

Following the introduction of the Mobile Money Guideline a total of 21 mobile money operators' licences have been issued out to 16 non-bank operators and 5 bank operators. Tech giant, MTN is presently a mobile licence operator. Also, under the PSB model, 3 licenses have been issued, two to subsidiaries of telecommunication companies. Considering the large subscription base of the telcos and their ability to reach an additional layer of customers that traditional bank ordinarily could not reach, introducing telcos to financial services is a brilliant move to achieve financial inclusion. These telcos are well equipped to easily penetrate and make financial products accessible to the unbanked. Also, with these arrangements, a lot of data about the unbanked Nigerian population will flow into the country's banking sector, making it easy for banks to target this population.

### **Using Artificial Intelligence and Advanced Analytics for Financial Inclusion**

The majority of fintech debates center on how mobile payments might promote financial inclusion. Fintech, which includes everything from payments to investments, loans, insurance, and savings, spans the full range of financial services in Nigeria, even though the payment sector is the largest and most established. These all contribute significantly to encouraging inclusivity. Affordability, simplicity, and rapid and easy access are a few conditions for financial inclusion. These needs are satisfied by a digital financing strategy.

Under the traditional approach to credit scoring, there are certain requirements that create a barrier to access to credit by non-salaried customers and small companies such as requests for salary slips, corporate balance sheets etc. Artificial intelligence and advanced analytics for credit scoring will help to broaden the pool of credit worthy customers therefore allowing access to credit for those customers who ordinarily would not have access under the

traditional credit scoring system. For example, Jumo, a platform for mobile network operators and banks which provide digital lending services, uses advanced data engine and runs machine-learning algorithms to build increasingly accurate credit profiles. Another example is Fairmoney, active in Nigeria, which uses artificial intelligence technology to leverage data from customers' mobile phones to help identify and segment their risk profiles. With these technologies, credit facilities are made available to an additional layer of customers.

### **Challenges:**

Despite the fintech industry's youth and ongoing development, there are still issues that need to be resolved in order to fully integrate fintech services into the financial sector and maximize consumer benefits.

### **Some of the challenges faced by the new sector are:**

#### **Regulatory Factor**

The reality is that regulators are still attempting to strike a balance between fostering innovation and guaranteeing financial stability and consumer safety, despite the fact that they have demonstrated some amount of support for innovation and digitalization by passing a number of guidelines. A recent CBN regulation forbids financial institutions from doing cryptocurrency transactions. The Securities and Exchange Commission has published another regulation that prohibits unregistered businesses from offering a platform for dealing in securities in Nigeria. Although there have been many responses to these regulations from industry participants, the Regulator views them as essential to upholding a stable and balanced financial system.

To address this challenge Regulators will need to be open to dialogues with innovators on how existing regulations can support innovation and how their products can fit in with

Regulations. Regulations should also take into account the fact that the playing field may sometimes be uneven. For example, if Fintech are to have the same capitalisation requirements as banks, this might be prohibitive.

In order to successfully manage the risks associated with innovation and support the growth of fintech companies, regulators must also increase their capacity and awareness of these risks. A regulatory sandbox is a controlled environment where innovators in the fintech industry and other fields can conduct live experiments while being closely supervised by regulators. It's interesting to note that the CBN just published a draft of the regulatory framework for sandbox operation. In its circular for approved licence classification for payment system providers in Nigeria, the CBN also mentioned the regulatory sandbox. According to the Circular, industry innovators and start-ups in the fintech sector can easily receive a regulatory sandbox license because there are no capital requirements to qualify for one<sup>51</sup>.

### **Low Level of Financial Literacy**

The unbanked and underserved have a widespread belief that they are not in need of the financial services offered by banks. In Nigeria, many people would rather turn to informal lending from family and friends than apply for a loan at a bank. Additionally, saving in Nigeria typically takes on a highly traditional appearance, including storing the money in a secure location at home or using unofficial saving clubs known as osusu. Fintech companies that offer lending and saving services have found it difficult to establish themselves in the market due to these obstacles. Even though companies like Piggyvest in Nigeria and Jumo in South Africa have introduced digital savings tools to bridge the gap between formal and informal savings, financial literacy needs to be raised in order to reach a wider audience of customers<sup>52</sup>.

## **Lack of Consumer Trust**

According to research, people still do not fully trust fintech companies, which is largely due to people's fear of the unknown, a lack of adequate regulation, and their reluctance to share their personal information. Many consumers are finding it challenging to keep up with the rapid growth of the fintech industry. Fintech companies will have to put in a lot of effort to show their credentials in terms of corporate governance and social responsibility. Strategic partnerships with banks can help Fintech gain the amount of trust required to scale because major traditional banks have been able to build up a good level of trust over the years. Additionally, the CBN recently approved four license categories for payment system operators and mandated certain recapitalization standards that both new and current actors in the fintech payment sector must adhere to. The minimum share capital requirement for mobile money operators (MMO) is two billion naira. Additionally, the circular states that only MMO are allowed to keep consumer funds. Additionally, CBN permission is required for any cooperation between banks, licensed payment providers, and other financial institutions. This advancement will support a more reliable and stable fintech ecosystem, which will increase confidence in the industry<sup>53</sup>.

## **Next Opportunities in the Fintech Sector**

The vast market size and several undiscovered prospects in the fintech sector have sparked an increase in interest in Africa. Future growth in the sector will be mostly driven by the development of cybersecurity, KYC, and AML solutions. Because traditional banking requires face-to-face interaction, mobile technology-enabled services offer a more secretive and anonymous experience, which fosters an environment conducive to criminal activity. Fintech firms who can implement a useful KYC procedure, address KYC and AML-related problems, and offer secured apps will therefore be well-represented in the future<sup>54</sup>.

The creation of API Fintech Companies represents another area for expansion in the fintech sector. The fintech industry is expanding quickly. There will be a huge need for API firms that provide infrastructure that enables smooth interaction and communication between diverse technologies, applications, platforms, or servers as demand for financial services rises and various subsectors flourish.

### **Digitalisation and Increase in Cyber Attacks**

Increased competition between banks and fintech has resulted from the advent of these businesses, as the former strive to remain relevant and the latter struggle to scale. For better customer benefit and experience, the majority of banks have digitally altered their current operations and are forming strategic partnerships with Fintech. As they transition to digital financial services, several African nations are undergoing a dramatic shift of their financial sectors. The threat of cyberattacks against the digital financial infrastructure, however, follows the rise in digitization.

Since the COVID 19 epidemic, these cyberattacks, which pose a risk to financial stability, have become more prevalent. Major tech companies in Uganda were hacked for four days in October 2020, causing service transactions to be affected. Around the same time, big tech companies in Nigeria were also compromised, and the hacker using the Twitter handle "anonymous" released airtime and data to mobile customers. There were additional claims that this "anonymous" broke into a number of other institutions. The rise in cyberattacks poses a present-day threat to those involved in the financial and technological sectors, despite the fact that major banks have dismissed the charges as unfounded rumors.

First, there is the need to build effective domestic relationships across the continent among financial authorities, law enforcement and relevant government actors. A coordinated regulatory framework and procedure will go a long way to curb the menace.

To strengthen cyber resilience, the Financial Stability of Banks will need to develop a basic framework for supervising cyber risk management at financial institutions. Governments and industry should strengthen security by sharing information on threats and by creating financial computer emergency response teams (CERTs).

Harmonization of laws on cyber security would be helpful for efficient and effective information sharing and cross border investigation and this can be easily achieved by signing and ratifying a common convention on Cybercrime or integrating the provisions of the convention into local law. One good example of a comprehensive legislation against cybercrime is the Budapest convention. Unfortunately, it has not been ratified by any Africa Country. Also, the importance of educating consumers and businesses on cybercrime and how to protect themselves cannot be overemphasized. Sensitization is key to combating cyber-attacks.

### **2.1.3 Concept of Financial Inclusion**

The notion of financial inclusion is defined differently in different works of literature, but they all appear to have a similar amount of information and, as a result, tend to express the same meaning. Financial inclusion can be viewed as the model of enabling different financial services created and made available to every member of society at a reasonable price and at the appropriate location, without any kind of discrimination on the part of the service provider<sup>55</sup>.

According to the Financial Inclusion Initiative, financial inclusion is described as the procedure through which financially deprived and low-income persons acquire access to adequate financial services at affordable costs in a transparent and equal way. Providing timely financial services to those in society who might be disadvantaged in one way or another is referred to as "financial inclusion." Clients must be able to access a variety of

formal services, starting from basic credit and savings services to more intricate ones like as insurance and pensions, in order for them to benefit from them, financial inclusion must be ensured. Customers will have access to more than one financial services provider, which will encourage a diversity of competitive services, as a result of this regulation. Financial exclusion is a notion that refers to the inability of the disadvantaged to receive financial services.

Furthermore, financial exclusion refers to a process in which people experience problems in obtaining and/or using financial services and products available in the mainstream market that are appropriate for their requirements and that enable them to participate fully in society in which they reside. A number of challenges must be overcome in order for financial inclusion to be achieved. These include unfavorable business conditions, a lack of long-term growth, a lack of widely accessible infrastructure, geographic location (such as rural areas), which inhibits physical access to financial institutions, psychological variables (fear of financial services staff, worry of complex financial offerings, insufficient knowledge about practices and products), limited wage and impoverished financial restraint, and bad business practices<sup>56</sup>.

Financial services are generally necessary for the growth and development of the economy. Additionally, the expansion of financial services open to all citizens has the potential to boost economic growth and lessen the negative effects of poverty on the economy. To maximize the number of people in society who have access to formal credit, it is thought that a strategic initiative must be done to increase the number of people who have access to formal financial services. A strategy called financial inclusion tries to reduce market barriers that prevent the underprivileged and impoverished from accessing financial services. It also goes by the name of financial exclusion. In some circles, it is referred to as financial exclusion<sup>57</sup>.

The provision of a wide range of financial services, including savings, insurance, credit, remittance, and payment services, is referred to as financial inclusion. Overall, financial inclusion may be defined as the process by which people within the economic model who are disadvantaged by these services due to low income and inaccessibility are made accessible to them, and this is done in a timely and cost-effective manner<sup>58</sup>. As defined by the International Monetary Fund, financial inclusion describes a situation in which a specific class of people, who had limited access to financial products, is slowly assimilated into it through the design of affordable, safe, and fair financial offerings and services by formal financial institutions to those who had previously lacked access. The financial system is a way to make a country's financial system accessible to its residents. It also goes by the name of financial inclusion. In order to guarantee that formal banking markets are widely accessible, affordable, and easy to use<sup>59</sup>.

It is possible to employ financial inclusion as a business service provider, which helps to make different types of financial services offered at a fair price, in a timely manner, and accessible to people from all walks of life. Using this growing body of information and experience, policymakers and regulators have begun to prioritize the expansion of financial inclusion as a method of spurring growth in the financial industry, which is a positive development. National governments across the globe are beginning to put in place comprehensive policies targeted at improving access to and utilization of financial products in their respective jurisdictions. Effective financial systems may help people and organizations with a diverse variety of needs by providing them with savings, lending, payment options, and risk mitigation solutions, amongst other services.

Inclusive financial systems that provide broad access to finance without respect to price, information, race, earnings, schooling, age, or institutional constraints would provide enormous benefits to those from minimal and other marginalised people. Vulnerable

populations and poorer individuals must rely on their own personal assets in order to invest in their kids education, health, and business efforts in the absence of an integrated economy. Small businesses must rely heavily on constrained profits in order to be ready to take advantage of attractive opportunities in order to survive. Continued barriers to financial opportunity for this group of workers have the potential to widen income gaps and impede the development of the national economy. The fact that a sizable segment of Nigeria's population is economically cut off from the nation's mainstream is a significant contributor to the country's ongoing economic illiteracy. Empowering the 70% of the population that lack access to basic services is necessary for Nigeria to reach the ideal degree of financial inclusion. This will in turn spur economic growth and development. The inclusion of this sector of society in the financial system will ultimately increase economic activity. Additionally, this will encourage domestic output growth, which over time, help to alleviate poverty<sup>60</sup>.

Financial inclusion has been defined in a variety of ways by different authors, but they all agree that it refers to the effort to integrate people into the financial system and make financial services accessible to everyone, especially low-income and rural residents, in order to increase their financial security. It is the process of quickly and affordably making financial initiatives available to low-income and disadvantaged people and communities. The issue of financial exclusion should be addressed in conjunction with the idea of financial inclusion, so it's crucial to remember to bring it up while talking about financial inclusion. Individuals and other groups who are excluded from the official financial system are referred to as financial exclusion issues. Financial exclusion issues encompass a number of factors that prevent individuals as well as other groups from engaging in the formal financial system. The definition of financial exclusion is that it occurs when some members of a society's peer group do not have access to financially safe, reasonably priced, and conveniently accessible

products and services from authorized financial services providers. When an individual, household, or institution does not have access to formal financial goods and services, this is referred to as exclusion from formal financial goods and services. Those who are deemed to be financially alienated are referenced to as financial excluded, and the process of integrating them into the banking and finance network is referred to as financial inclusion.

According to widespread consensus, financial inclusion is essential in the eradication of poverty and the realization of fair economic growth. Financial inclusion is not an aim in and of itself; instead, it is a method of achieving a more general aim in society. A large number of research have revealed that it has considerable advantages for individual health and well-being. In research, it has been established that those who are involved in the financial system have greater chances to form and expand businesses, to invest substantially in education, to manage and decrease risk, as well as to be better prepared to handle economic shocks and fluctuations. Along with having accounts, individuals can profit by having access to payment and savings options, which can both improve their capacity for economic growth and raise consumption. According to the World Bank, it has the potential to increase women's savings rates while simultaneously empowering them. Consumption, income, and employment status are just a few areas of one's life that are significantly impacted by access to credit<sup>61</sup>.

Financial inclusion is measured in three dimensions: (i) Access to financial services; (ii) Usage of financial services; and (iii) the Quality of the products and the service delivery. The Basic Set, which addressed some of the key access and usage indicators, is hereby extended into the G20 Financial Inclusion Indicators, covering the three dimensions and providing further insight into access and usage aspects, including indicators on the emerging mobile financial services space. Both supply-side and demand-side data is included to form a comprehensive view.

Countries are urged to gather their own data to enhance the indicators included in the table below with information on topics that are particularly pertinent to their local contexts. The information sources provided in the table below offer a helpful place to start when creating the key indicators. The G20 Financial Inclusion Indicators were chosen based on a number of important factors, including appropriateness and comprehensiveness, as well as data availability, sustainability, and robustness. The World Bank Global Findex, IMF Financial Access Survey, Gallup World Poll, and other sources, such as the World Bank Financial Capability Surveys, OECD National Financial Literacy and Inclusion Surveys, OECD SME Scoreboard, and World Bank Global Payments Systems Survey, are among the data sources used in this study.

Although the G20 Financial Inclusion Indicators' scope is broad enough to enable a full analysis, new data gathering initiatives as well as changing business and technological models may call for additional or modified indicators in the future. Therefore, it is planned to assess the indicators once a year.

### **Access to Fintech Financial Service Products as Financial Inclusion**

Financial services play several important roles. They contribute greatly to the economy as infrastructural services. Financial services enable domestic and international transactions, mobilize and direct domestic funds, and increase the credit availability for businesses, particularly small and medium-sized enterprises (SMEs) and households. Financial services are a self-contained economic sector that contributes to output and employment, with a number of its activities having a high value added and necessitating skilled labor. Financial inclusion, which is defined as the effective access and use of formal providers' accessible, affordable, convenient, high-quality, and sustainable financial services by individuals and businesses, can thereby help reduce poverty and promote economic and social development<sup>62</sup>.

In order to counteract the consequences of knowledge asymmetries and transaction costs, which prohibit the direct pooling and investing of society's savings, financial markets and institutions were created. They encourage saving and offer payment systems that make it easier for people to exchange goods and services. Additionally, they generate and analyse data about investors and investment projects to help with funding decisions, monitor investments and practice corporate governance after funds have been distributed, and assist with risk diversification, transformation, and management<sup>63</sup>. When they work well, they provide opportunities for all market participants to take advantage of the best investments by channeling funds to their most productive uses, hence boosting growth, improving income distribution and reducing poverty. When they do not, growth opportunities are missed, inequalities persist, and in extreme cases, there can be costly crises.

Until recently, econometric research on the performance of formal financial systems around the world has focused mainly on their depth, efficiency and stability. Cross-country regressions have shown financial depth to be not only pro-growth but also pro-poor: economies with better developed financial systems experience faster drops in income inequality and faster reductions in poverty levels. Much less attention has been devoted to financial outreach and inclusiveness: the extent to which individual firms and households can directly access formal financial services. Even deep financial systems may offer limited outreach. Yet, providing savings, payments and risk-management products to as large a set of participants as possible and seeking out and financing good growth opportunities wherever they may be, is an important function of a well-functioning financial system. Without inclusive financial systems, poor individuals and small enterprises need to rely on their personal wealth or internal resources to invest in their education, become entrepreneurs or take advantage of promising growth opportunities. It seems plausible, therefore, that an

inclusive financial system might be associated not only with lower social and economic inequality, but also with a greater economic dynamism in the economy as a whole.

### **Usage to Fintech Financial Service Products as Financial Inclusion**

A bank account, using a bank's credit and savings facilities, and other for-profit financial services are all examples of financial inclusion. Financial exclusion, on the other hand, happens when people are unable to obtain financial services due to barriers (such a distance to a financial institution), even though using these services has a greater marginal benefit than it does a marginal cost. The latter is undesirable for an economy since it has a variety of negative macroeconomic repercussions, such as a decline in total savings, poor domestic investment as a result of a decline in savings, and the epileptic development of the financial system<sup>64</sup>.

On the advantages of financial inclusion to national development, agreement has been established. Some of these include lowering the degree of poverty, reducing inequality, and increasing private investment. Additionally, because it makes it simpler to send money from overseas, financial inclusion increases the appeal of remittances. It is important to note that banks' capacity to continue operating depends on the level of financial inclusion since they need consumer cash for liquidity and reinvestment, and because the fees they charge for the services they provide to customers contribute to their total profitability. In addition, increased household consumption and female empowerment are other benefits of financial inclusion<sup>65</sup>. Following the benefits from financial inclusion, countries are beginning to develop strategies to increase individuals' access to financial services. In Nigeria, some of the strategies recently developed by the Central Bank to reduce the 46.3% adult population currently excluded from financial services include: enhancing bank–customer relationship, electronic banking, public enlightenment about financial services and the introduction of credit enhancement schemes. Despite the commendable effort and its ramifications, we contend that

a "bottom-top approach" to policy creation is necessary if sustainable financial inclusion in Nigeria is to be achieved. Understanding the variables that hinder or facilitate people's access to financial services is crucial since they should guide policy decisions. Therefore, the goal of this study is to determine how much a person's traits contribute to their ability to access and utilize banking services in Nigeria.

This viewpoint is developing, and some research that have tried to adopt it have, at best, thought about a descriptive study of the development of financial inclusion in African countries and carried out surveys on the degree of financial inclusion in Nigeria<sup>66</sup>. These methodologies have the drawback of describing potential connections without explicitly demonstrating their relevance, making it difficult to draw conclusive scientific conclusions from their results. Because of the increased percentage of adult financial exclusion, Nigeria is our primary emphasis. Only 31 million out of the 85 million adults in Nigeria in 2010 had a formal bank account, or around 36 percent of the country's adult population<sup>67</sup>. This figure is alarming when compared to South Africa and Kenya, where respectively 68 percent and 41 percent of the adult population operated formal bank accounts in the same period, and it necessitates an immediate investigation into the variables that may help to improve the trend of adult financial inclusion. The results of this study can be applied to policymaking in other African nations because Nigeria has the second-largest banking industry in the continent. Currently, the region has a relatively low percentage of financial inclusion: for example, just 10% of adults in the region with primary or no formal education have bank accounts, compared to only 55% of adults with higher education<sup>68</sup>.

The approach of this study – focusing on individuals' attributes – helps to solve two distinct problems that are popularly associated with economic analysis. The first is the problem of endogeneity, which plagues studies that have focused on financial sector development. This issue when they considered remittances and banking sector breadth in Mexico. They argued

that conclusions that are reached on financial sector development, using aggregate data are subject to at-least some form of endogeneity. Financial access has advanced in an impressive way. But using digital financial services effectively and actively is still difficult. In fact, only one out of every five bank accounts have seen a deposit or withdrawal in the last 12 months. Additionally, roughly two-thirds of mobile money accounts worldwide are inactive<sup>69</sup>.

### **The Quality of Fintech Products and Services Delivery as Financial Inclusion**

Customer satisfaction results from goods and services that meet or surpass expectations. Quality is the realization of the desired good or service. A customer does a mental calculation before making a purchase (exchanging money for a good or service). An operational or manufacturing view of quality is one in which goods and services are created and manufactured in accordance with standards that are reasonable in light of the price (the amount of money the client will exchange for the good or service). Here, the consumer gets the value they expect since operations included high criteria for quality into the final product. A typical interpretation of the concept of quality is from the perspective of operations<sup>70</sup>. However, quality is a function of how the customer views the product/service that he or she receives. The customer view always compares what they expect with what they actually receive regardless of how operations conceive quality.

Marketing, and sales in particular, have a significant impact on how customers perceive quality. As was already established, acquiring the exact product or service that was promised is the basis for customer happiness. When production or operations (in the case of a hospitality service) are unable to fulfill the promises made by marketing and sales, then expectations are not met, the client is disappointed, and quality (in the customer's eyes) is not realized. Quality cannot be assessed by operations or production in an absolute sense<sup>71</sup>. Variables that affect quality are: (a) customer expectations (obtained from marketing and sales, as well as word of mouth and previous experience), (b) actual product/service received

(how a service is performed by operational people and actual tangibles received (cold food for example). The following models explain these basic concepts:

### **Fintech Product Quality**

Product quality refers to a product's or service's attributes that affect its capacity to meet explicit or implicit consumer needs. Product quality is defined as the product's actual functionality and the congruence between the online store's quality specifications and the actual quality of the physical product. Product quality (the website sells high-quality products), product variety (the website sells a wide range of products), and product availability were utilized as measurement criteria in this study (the website supports high product availability). Customers are more inclined to visit an online store that offers a wide selection of high-quality goods. Customers tend to view the online store as useful and return if the product quality matches their expectations. It can be stated that a product's quality refers to its features that influence its capacity to meet client needs<sup>72</sup>.

Quality is the performance of the product as per the commitment made by the producer to the consumer. Such commitment may be explicit or implicit i.e. in terms of written contract or in terms to the quality management expectation of the average consumer of the product. The performance of the product is concerned with the ultimate function and service which the product must provide to the final; consumer.

Only when a product satisfies different requirements for how it will perform for the user is it recognized as a quality product. In addition to the physical requirements, quality is also influenced by service and time. A reasonable amount of time should be allowed for the same level of physical performance. Time is thus a pointless feature of quality. Because the plant or company determines the market, the choice of which type of consumer or customer to cater to in terms of quality is a strategic marketing decision made by the company itself.

Quality can be expressed as a written or verbal promise or commitment to a consumer who is either known or unknown in the market<sup>73</sup>.

Thus, it can be claimed that the choice of quality is based on a variety of marketing factors as well as production, labor, and equipment or technological limits. In this approach, the decision about quality is not in the hands of a single functional manager because it entails a broad strategic choice for how a firm will run its business. Once such a quality-related strategic strategy is in place, it is the responsibility of all functional managers, including the production and operations manager, to ensure that the strategic aims, objectives, and goals are met. In this instance, all departments, including purchasing, production, storage, and transportation, have contributed to the success of the items' quality. Consequently, effective adoption requires "whole organizational effort"<sup>74</sup>.

The essential need of the products/services is that they must fulfil the requirements of those who will actually use them. Now because the use of the product differs from situation to situation, the requirement is viewed in different manners by various users. It may be concluded that quality is a key attribute that consumers use to evaluate products or services. Thus it is everything to everyone involved in a business, to satisfy the total needs of every consumer/user whoever that customer may be, and is driven by the market conditions, i.e., by the competition and especially by the consumer. Quality is the capability of a product or service to satisfy "knowingly" those preconceived composite needs of the consumers/user(s) that are intelligibly related to characteristics of performance, and do not lead to major overt or covert action or reactions by other people.

Therefore, the importance of quality is:

- i. Quality is an important dimension of production and operations management. It is not sufficient to produce products/goods or services in the right quantity and at right time;

it is important to ensure that the goods/items and services produced/provided are of the right quality.

- ii. The consumer of the final product of company/organization requires a certain quantity of products of requisite quantity as per his requirements. Without quality, the other dimensions of quality and time have little rather no relevance.
- iii. Quality management, which includes ensuring proper quality for a organization's/plant's output product, is important not only for its survival in the market, but also to expand its market if new product line is to be introduced and various other marketing ventures.
- iv. The lives of human beings are affected to a great extent by the quality of products and services. Quality failures may and would result in serious human inconveniences, wastage of money and sometimes loss of life.
- v. In the early twentieth century, consumers/users were expected to pay extra for quality. However in the present day competitive business market quality is no longer an option. In other words, it is a positive need without which the survival of an organization is not possible<sup>75</sup>.

### **Fintech Delivery Service**

Delivery service, sometimes known as the "driver of customer pleasure," is the supply chain link that directly interacts with customers. Customers frequently purchase goods from home, and they want prompt, safe delivery of their preferred goods. In an online context, prompt and trustworthy delivery are essential to exceeding customers' expectations and ensuring their satisfaction. Customers can easily transfer from one web page to another with just a single click, or they may have even migrated to traditional brick and mortar stores as a result of the delivery of late, hazardous, and undesired goods. As a result, it may be said that delivery

services are services set up by a supplier or a store to deliver goods to clients<sup>76</sup>. Delivery Services are billable services that are directly associated with a product in a sales order or a return order, for example, the delivery of a high-definition television. Stand-alone delivery service lines can also be created, and if required, associated with a product at a later time.

A business model known as service delivery transfers services from a provider to a client. It also includes the ongoing communication between the two parties when the consumer is using the service and the provider is providing it. In essence, a service delivery company gives a consumer something they are unable to produce on their own. Anything from a task to technology or information could be included in that service. It can be divided into two main groups: models more relevant to a particular industry for technical service, or universal references for any service. By establishing guidelines for all facets of their business operations and customer interactions, service delivery procedures normally attempt to give the client more value<sup>77</sup>.

There are four logically sequenced steps or areas that companies use to provide the best customer experience through their service delivery. Focusing on these elements can give a broader understanding of the scope of service delivery:

### **Service Culture**

Service culture relates to the leadership principles, vision, mission, work habits and values of a service provider company. Management controls these items, which set a basis for operations throughout the entire organization. Maintenance and development of these elements can develop the social processes of an organization and help serve the long-term success of the company.

### **Employee Engagement**

Employee engagement focuses on those who work within an organization to provide service delivery. Human resources and other leadership supervisors can use their influence to shape employee attitudes, activities and purposes that align with the service culture of the organization. This serves as the link between the service delivery design process and the excellence model that the customer experiences.

### **Service Quality**

Service quality includes all strategies, performance management systems and processes involved in service delivery. These items help define the management model that helps the client reach their end goal within the service delivery process. This element is the foundation of the service provider and client partnership.

### **Customer Service**

Customer service focuses on providing the client with both the resources and knowledge they desire about their service delivery product. It includes items like account management, customer intelligence and continuous improvement. This phase uses a continuous review and collaboration process to understand how customers perceive the organization's service delivery and what you can do to make it better. This can work most effectively when the customer is part of the creation and delivery process<sup>78</sup>

There are a variety of industries that provide different types of service delivery that cover a range of products. Some of them include:

### **Information Technology Infrastructure Library (ITIL) Services**

The main focus of ITIL service providers is to provide their clients with technological and communication resources like cable, internet, mobile phone service, streaming services, and other related hardware, software, systems, or infrastructures. To establish quality standards and availability benchmarks, providers outline the services, roles, and duties of the business

and its customers in this framework. To supply services and monitor their efficacy, ITIL businesses may utilize tools like help desks, service catalogs, configuration management, databases, and performance logs. One of the most typical for many provider firms is this type. For that reason, ITIL has its own set of standard delivery practices to use in corporate business around the country and around the world, including:

- Service level management (SLM): Establishes goals for service delivery and makes them easy to measure and track the success
- Financial management: Determines the cost of services and provides account support for customers
- Capacity management (CM): Concerns the definition of services that a company can offer with a service level agreement (SLA)
- Availability management: Ensures that a company provides the resources promised in the SLA as consistently as possible by monitoring things like unexpected service disruptions
- Continuity management: Takes availability management to a greater planning phase by making contingency preparations for potential service disruptions caused by things like natural disasters

### **Local Services**

States, cities and municipalities often offer multiple types of service delivery for residents and business owners within their districts. These options could include things like healthcare, education, regulation of administrative proceedings, garbage collection or other related amenities. With local service delivery, the provider is the government organization, and the client is its citizens or business owners. In this instance, the customers seek data from or provide data to the provider to handle their personal or corporate duties.

## Health Services

Health service providers use service delivery to ensure that patients receive the medical treatment and supplies they need and those that they deserve under their specific coverage. In a health services situation, the patients are the customers and the medical professionals, health institutions and insurance companies are the providers.

## Legal Services

Legal service providers help businesses and individuals understand the terminology and processes of certain situations under local, state and federal law. In this type, customers or clients are those seeking legal advice or assistance and the providers are law firms or other organizations. Two of the most common types of legal service providers are law firms and alternative legal service providers (ALSP). Attorneys typically own and direct law firms and focus on legal proceedings while anyone related to the law business can run an ALSP that focuses on functions or tasks. ALSPs may work on projects like document reviews, legal research and contract management. Law firms can give legal advice and represent people in court proceedings in addition to conducting many services provided by ALSPs.

1. **Real estate services:** Real estate services can include things like helping people look for a property to buy, finding purchasers for a property on the market, coordinating inspections and appraisals and working with legal service providers to create contracts. In this type, the customers are those buying or selling property and the providers are agents or organizations facilitating the sale.
2. **Consulting services:** Consulting service delivery can be a broad term for any consulting firm that offers a solution that an organization doesn't have the volume or knowledge of staff to complete internally. Consulting firms can specialize in almost any area of business, such as writing, content creation, human resources or finance<sup>79</sup>.

## **Measurement of Fintech as Financial Inclusion**

Although policymakers, banks, and educational organizations from all over the world agree on the importance of a comprehensive financial system, the empirical literature on financial inclusion lacks an inclusive standard measure that can be used to compare the degree of financial inclusion between different economies. The author acknowledges a number of metrics that have been employed by various scholars to define the degree of financial inclusion. These authors employ variables such as the number of loan accounts per million people, the number of bank branches per million people, the number of ATMs per million people, the size of the adult population's major deposit accounts (current and savings), the number of POS devices deployed, amount of bank credit, and amount of bank deposit<sup>80</sup>.

The indicators, utilized apart from one another, represent a portion of the knowledge about a country's monetary system. As a result, the author advises using a cross-sectional study design to examine financial inclusion, which would compile data from a variety of sources. According to the researcher, single-figure metrics allow for cross-country comparisons, trends to be studied and analyzed in terms of a state's success on policy innovation, and providing answers to academic questions like the connection between financial development and economic inclusiveness.<sup>81</sup>

## **Benefits of Financial Inclusion**

Financial inclusion has become a strategy and a major concern in many countries as a result of the extensive discussion of the relevance of an inclusive financial system in strategic circles. The discovery of the crucial role of finance as one of the most important traits of growth and development has played a key role in the acceptance and significance of an inclusive financial system. Academics, public officials, and scholars alike are becoming more interested in the topic as a result of a rising understanding of the importance of financial

inclusion and the realization that progress alone is not sustainable. An efficient distribution of useful funds is made possible by a comprehensive financial system, which may lower the overall cost of capital. By transferring their funds to a recognized system of financial intermediaries and placing them in an investment vehicle, financial inclusion gives the underprivileged the opportunity to invest their savings. Additionally, the huge volume of small charge deposits gives Deposit Money Banks (DMBs) the chance to lessen their reliance on unpackaged deposits while also helping DMBs to flourish and develop in terms of liquidity risks and asset liability discrepancies (ALD).

Financial inclusion can help curb the growth of questionable lending channels, such as payday lenders, who have frequently come under fire for their unfair business methods. Financial inclusion shields those who lack resources from the impact of unregulated money lenders<sup>82</sup>. People who are excluded from conventional financial institutions usually rely on the informal sector for financial assistance, and they are frequently subjected to exorbitant interest rates. The effect is that those who are financially disadvantaged do not have access to a wider range of lending choices. As a result, it is easy for individuals to become trapped in a vicious circle of elevated cost of financing, in which they take funds at exorbitant interest rates and subsequently pay a considerable amount of their income to lenders.

Taking part in the official financial system may help people manage their resources more efficiently on a daily basis, which can help them save money. Consider the following: in economies that support cashless payments, like those in North America and Western Europe, including those in the early phases of growth, the following is true: the absence of permission to run a bank account could imply a disparity between indebtedness and wealth. Individuals who do not have bank accounts find it difficult to fulfill personal obligations, such as paying their bills on time. In the absence of an accessible transaction-oriented bank account, individuals must rely on an unreliable money-centered commerce system, making them

subject to theft and unpredictability. Besides the personal support that financial inclusion gives, financial inclusion also has advantages for financial institutions and the central bank as well as for the general public. A large number of theoretical and empirical inquiry studies have demonstrated the substantial impact that greater access to financial services plays in driving faster and more equal growth while at the same time reducing income gaps as a general rule. A well-structured financial system enables the integration of economically disadvantaged persons into the formal financial services and enables such individuals to become more actively involved in the quest of their own individual economic prosperity<sup>83</sup>.

### **Dimensions of Financial Inclusion**

A significant influence on policymakers' decisions to ensure that the finance sector is inclusive has been imposed by the World Bank, the Consultative Group on Assistance to the Poor (CGAP), the International Monetary Fund (IMF), the African Development Bank, the Asian Development Bank, and the government agencies of some states.

First, when it comes to determining the degree of financial inclusion, it is important to recognize the instruments that allow for the seamless availability, utilization, and superior advantage of financial services in an economy<sup>84</sup>. The present level of financial inclusion in their individual nations is important information for policymakers, who may use it to develop policies and plans to remove the obstacles that hinder people from having access to financial services. Financial inclusion, according to the Alliance for Financial Inclusion, is a multi-faceted concept. Individuals and businesses are divided into several divisions, depending on whether they are included or not, according to them. The Financial Inclusion Data Working Group (FIDWG) of the Alliance for Financial Inclusion (AFI) has identified three key facets of financial inclusion that have an impact on the advancement of data collection in order to achieve its goal of outlining a more absolute abstraction of attachment. These are credit, savings, and insurance, according to the FIDWG. The three elements are as follows: access,

usage, and overall quality. According to the panel's findings, adopting a broader and more multifaceted concept of financial inclusion is critical to shifting the conventional wisdom that inclusion can only be accomplished by providing appropriate access points to the financial system<sup>85</sup>.

The level of financial inclusion is just a concept for policymakers to employ in developing rigorous measurement procedures that accurately reflect the multi-dimensional components of financial inclusion, that are detailed further down in this section. Developing a collection of metrics that are satisfactory to their criteria and the amount of assets in each country's respective economies will remain to be the responsibility of policymakers, within the limitations of the framework described above. The World Bank's report on financial inclusion initiatives contains extensive explanations of the access, use, and quality aspects of financial inclusion, as well as a fourth dimension that considers the influence of companies and households on the financial inclusion landscape<sup>86</sup>.

### **Financial Inclusion in Nigeria**

Financial exclusion has risen to prominence in Nigeria as a result of the fact that the great bulk of the money in circulation remains beyond the banking system. As a result, financial exclusion has developed as a major economic challenge that has piqued the interest of several governments throughout history, notably in the last four decades. Preceding the recent push to increase financial inclusion, the Nigerian economy was predominantly a cash-based economy, with a considerable part of the limited money stock held in the form of money held outside the banking system<sup>87</sup>.

The average ratio of currency outside the banking sector (COBs) to narrow money supply (M) decreased over time, from 61.1 percent in the 1960s to 44.3 percent in the 1970s and later to 40.9 percent in the 1980s, but it remained high in nominal terms, given the increase in the

amount of narrow money in the economy during that time period. The decrease in the percentage may be attributed to a number of events, including greater literacy and government initiatives aimed at supporting the expansion of the financial industry. A rural banking initiative was launched by the Central Bank of Nigeria (CBN) during this era, instructing banks to build branches in remote regions and encouraging Nigerians to utilize financial institutions and goods on a more frequent basis<sup>88</sup>.

During the 1990s, the banking industry experienced a crisis that undermined the trust of the general public in the business. As a result of the excessive spending of the political class, the level of money outside of the banking system has increased, aggravating the situation. By the end of the 1990s, the proportion of cash held outside the banking system had increased to 47.7%. For the purpose of alleviating the negative implications of the banking sector's distress in the 1990s, the government instituted a series of policies, which included not only financial changes to boost the overall well-being of the populace in terms of income and employment earning capacity, but also policies that increased the depth of the financial sector. In response to the rising use of financial services, the share of money kept outside the financial sector has decreased, falling to 38.2% at the end of 2005 from 40.2% in the previous year<sup>89</sup>.

An analysis of the financial exclusion rate across countries was conducted, using the same measure of the currency outside of the banking system to narrow money supply, and comparing the financial exclusion levels in Pakistan, Venezuela, Switzerland, the United States, Nigeria, India and Argentina over a four-and-a-half-decade period. Nigeria has not performed particularly poorly in comparison to other countries, despite the fact that the exclusion rate needed to be reduced more quickly.

Several changes have been done in Nigeria's financial system, not only to reduce bank hardship but also to improve the capacity of banks to provide soft loans to companies in order

to boost their level of output and, as a result, to lower the country's poverty rate. These reforms include: Despite the good steps taken by the government, Nigerian banks have not yet reached out to the great majority of the country's people. More than 4,000 bank branches, 17,518 ATMs, and 307,000 point of sale (POS) devices are available in the Nigerian banking business. It is well documented that the number of bank customers in Nigeria has increased dramatically, but the projected infrastructure basis is functioning at or below its capability and has the capacity to service even more customers. The average number of clients served per branch was 3,882, compared to 3,722 in Kenya and 8,595 in Tanzania. In order to achieve best-in-class levels, the typical branch should serve more than double the number of clients it now serves. With relation to the supply of financial services, Nigeria lags behind several of its peer African countries in a number of areas. The results of an EFINA study carried out in 2010 revealed that official financial services served approximately 36 percent (31 million) of the population (18 years and older) out of a total population of 84.7 million, while 46.3 percent (39.2) and 17.4 percent (14.7 million) were officially served but did not receive funding, respectively. The bulk of the population was made up of individuals who were formally serviced by the system. The usage of a money deposit bank (mainly DMBs) accounted for little over a third of all transactions, while 6.3 percent (5.3 million) made use of other institutional structures and financial commodities that were not offered by money deposit banks. Data on financial access by gender show that 62.6% of adult men and 72.8% of adult women lack access to financial services, respectively. Men are more likely than women to have access to financial services, with 37.4% and 27.2%, respectively. People who have a bank account mostly use it to pay their salary and earnings, whereas 15.7% of adults who have a bank account are traders who use it to conduct business operations. 74% of farmers are financially excluded, compared to only 14.9% who are financially included<sup>90</sup>.

## **Trend of Financial Inclusion in Nigeria**

According to research, a well-functioning and inclusive financial system is related with faster and more equitable growth. Observations from financial diaries reveal that impoverished individuals manage their finances on a daily basis, juggling complicated financial transactions and employing sophisticated strategies to do so, regardless of whether they use the official financial system. The use of savings accounts or simple informal savings technology increases consumption, productivity, and income, while decreasing vulnerability to sickness and other unforeseen occurrences. The availability of microcredit also encourages investment and entrepreneurship among households that already have companies<sup>91</sup>.

The attainment of financial inclusion in the Nigerian context occurs when people have simple access to a comprehensive variety of basic financial institutions that are tailored to their specific needs and are available at a reasonable cost. In a country with a population of nearly 200 million people, it suggests that about 91 million are served by informal finance providers. If the only financial service providers accessible to rural Nigerians are informal sources such as money lenders, self-help organisations, and rotating savings societies that have been working with the poor for decades, financial inclusion with a possible reduction in poverty using these informal financial service providers bearing in mind the amount of savings that they can mobilise and the value of loans and credits<sup>92</sup>. For example, to ensure financial inclusion in India, the banks operate zero or low minimum account balances to encourage the poor to operate bank accounts even when the bank does not make direct profit from such accounts.

During the previous several decades, there has been a substantial improvement in the way the banking system in Nigeria is geared toward financial inclusion. Nigerians banks have been unable to reach a large portion of the population despite achieving considerable advances in all aspects of financial sustainability, profitability, and competitiveness in recent years. The

present banking infrastructure in the country has the capability of facilitating the growth of financial inclusion, with not less than 4,000 bank branches, 17,518 ATMs and 307,000 POS terminals. Despite the fact that the banked population has increased faster than the bank branch network, the infrastructure is underutilised and has the ability to service more customers - the average number of clients per branch was 3,882 in 2016, compared to 3,922 in Kenya and 8,595 in Tanzania. To achieve best-in-class status, the typical branch should service more than twice as many clients as it does now. As a result, Nigeria falls behind several of its peer African countries in the supply of financial services. This poses significant hurdles to the country's economic growth and development. In 2010 for instance, only 36% – roughly 31 million out of an adult population of 84.7 million were served by formal financial services, compared to 68% in South Africa and 41% in Kenya. Also, a total of 39.2 million adult Nigerians (46.3% of the adult population of 84.7 million) were financially excluded in 2012. Further analysis revealed that 54.4% of the excluded population was women while those less than 45 years accounts for 73.8%, 34.0% had no formal education and 80.4% reside in rural areas<sup>93</sup>.

## **2.2 Theoretical Framework**

To provide a solid theoretical framework for the study, various related theories have been reviewed. They include Financial Constraint Theory, Pecking Order Theory, financial intermediation theory and bank capital channel theory<sup>94</sup>. The relevant theories reviewed, therefore, showed the connecting link between financial inclusion on poverty reduction in selected semi-urban areas of Ibadan Metropolis, Oyo state, Nigeria.

### **2.2.1 Financial Constraint Theory (FCT)**

Financial Constraint Theory (FCT) was propounded by a team of researchers led by Fazzari in 1988. The theory focuses on the impact of financial frictions on the investment decisions of a company. In corporate finance, it is one of the most fundamental concepts. It looks for differences in how businesses invest their own money, taking into account different levels of informational transparency, in the way businesses invest their own money. This is done by splitting a group of businesses into smaller groups, which is done based on the right theoretical antecedent for constrained and unconstrained businesses<sup>95</sup>. There are several theoretical underpinnings for studying the investment decisions of firms under the incentive limitation, and this theory relies on them, according to the experts. Because of this, borrowing constraints are a feature of the ideal long-term lending contract, which loosens with increasing claims to future cash flows by the borrower<sup>96</sup>. According to these scholars, the optimal contract has interesting implications for firm dynamics with the empirical evidence, as age and size increase, mean and variance of growth decrease, and firm survival increases.

### **2.2.2 Pecking Order Theory (POT)**

The pecking order theory was introduced by Gordon Donaldson in his 1961 article. The original theory was then reviewed by Stewart Myers and Nicolas Majluf in 1984. This revised edition is the most widely known today. The theory states that businesses would choose the most economical source of fund and they would also consider sources that allow them the greatest control over their businesses. A business in need of capital has various sources such as internal, external and equity contributors. Business capital is used by small firms when they need additional finances to meet their growing financial requirements. External equity is used to raise more capital when the company's financial needs to grow. There are stages in the life cycle of a small business, and the theory is aware of this.

This means that, if there is no money available domestically, the business would initially look to debt financing as a source of external financing before looking to equity financing as an external source. Small enterprises are usually accepted to adhere to the Pecking order theory because of the difficulties they face in obtaining external financing. Only a few financial organizations are providing full financial services, especially to rural residents, to the fullest extent possible. Banks are also changing from interest-based revenue to fee-based operations, such as lines of credit and various sorts of credit guarantees.

Pecking order theory predicts that external capital will always be more expensive than internally raised capital because of the information unevenness between a company and outside investors on the real worth of both present operations and prospects of the business. Internal funding sources are thus prioritized first in the pecking order notion. The lower information costs associated with debt issuance make it preferable for companies to raise money from outside investors. Businesses are often reluctant to make use of equity opportunities as fund raising avenue. Ploughed back profits, external debt, and equity are the three funding options available to businesses. There is no difficulty with the choosing of retained earnings. Debt has only a slight adverse selection problem, whereas equity has a far more serious problem. According to Pecking order theory, the cost of funding an institution will rise as a result of asymmetric information<sup>97</sup>.

This theory argued that the financial needs of MSMEs are met in order of hierarchy<sup>98</sup>. The theorists posit that small businesses start out with their own capital, but as their capital requirements expand, they turn to debt capital. Business owners and managers know more about the true value of the business and the risk of the business than outside investors do. According to this, when it is possible, businesses use their own profits to pay fund business expansion and other activities. When internally generated revenues become inadequate, they turn to extern lenders, and only in the most extreme cases will they use new equity financing.

Pecking order theory says that the last thing a company can do to get money is to issue equity (common stock). This means that when a company runs out of money in its own funds, it turns to debt funds<sup>99</sup>.

### **2.2.3 Financial Intermediation Theories**

Financial intermediation is defined as the extent to which financial institutions connect those who lack the needed capital and those who have surplus capital together<sup>100</sup>. As deposits taking institutions, the banks are in position to know which customers have idle cash which they can use to help people like entrepreneurs who need short and long term loans for business activities<sup>101</sup>. Financial Intermediaries supply their services by issuing secondary financial assets in order to purchase primary financial assets. If an intermediary does not provide satisfactory services, investors who purchased the intermediary's secondary securities might just as easily acquire the main securities directly and save themselves the fees accruable to the intermediary. Financial market ebbs and flows, according to entrepreneurship theories, determine the extent to which capable but poor entrepreneurs may raise external funding to launch businesses.

As a result, the evolution of financial development, growth, and intergenerational income dynamics are inextricably linked. Finance affects not only the efficiency of resource allocation throughout the economy, but also the comparative economic opportunities of individuals from relatively wealthy or impoverished homes; access to finance seeks to eliminate market frictions. Information asymmetry occurs when one party has more or better information than the other<sup>102</sup>. Reducing financial market inefficiencies in order to increase individual opportunities generates positive incentive effects. According to these models, a lack of access to finance is a fundamental factor for establishing chronic income inequality or poverty traps, as well as reduced economic growth<sup>103</sup>. In summary, the theoretical models listed above identify five major roles that financial intermediaries play: acquiring information

on borrowers, offering risk-adjusted agreements, accumulating capital, improving corporate governance, and facilitating the transaction process.

#### **2.2.4 Bank Capital Channel Theory**

The bank capital channel has three basic postulations which are all derived from existing theories. The theory assumes that the market for bank equity is highly volatile. It also holds that assets and liabilities do not mature at the same time which often exposes financial institutions to interest rate risk. Third, the regulatory activities of central banks and other statutory regulators particularly the policy on capitalization can affect the amount of loan banks can grant to borrowers. The "bank capital channel" operates in the following manner. Following a rise in market interest rates, the amount of loans that can be granted is reduced compared to deposits received by banks. This is because loans are frequently long term, whereas deposits are typically short term. So, if banks give out customer's deposits as loans and those loans are not repaid when the customers need their money, the bank can incur a cost as a result of the maturity transformation, which has an effect on profitability and then capital.

If equity is insufficient and issuing additional shares is prohibitively expensive), banks reduce lending because regulatory law requires capital to equal at least a specified percentage of loans. According to this idea, banks' lending behavior toward small enterprises is primarily influenced by the adequacy of capital available and the prevailing interest rate. A change in interest rates can have an impact on banks' ability to grant loans to small businesses. This means that rising interest rates raise the cost of banks' external funding while lowering profitability and capital<sup>104</sup>. In periods of low liquidity and high interest rates, banks are likely to reduce their lending to small scale enterprises and other borrowers. On the other hand, the banks may be more liberal about giving out loans in situations when the interest rate is favourable.

### 2.3 Empirical Review

Numerous empirical studies focusing on the variables influencing a nation's level of financial inclusion have been conducted, however the findings lack unanimity. analyzed, for the sample year of 2004, country-specific elements linked to the degree of financial inclusion using the traditional OLS approach. The level of financial inclusion was significantly correlated with a number of potential variables, including income as measured by per capita GDP, adult literacy, rural population, income inequality, physical connectivity as measured by road network, electronic connectivity as measured by phone subscriptions, information availability as measured by internet usage, bank soundness as measured by non-performing assets and capital asset ratio, and foreign ownership in the banking sector<sup>105</sup>.

Employing a dynamic panel data approach for 15 countries from 2005 to 2014, the factors that influence financial inclusion in Africa. The findings indicate that a number of factors play a significant role in explaining the level of financial inclusion in Africa, including lagged financial inclusion (which implies a "catch-up effect"), GDP per capita, money supply as a percentage of GDP, adult literacy rate, internet access, and Islamic banking activities. While natural resources are more strongly adversely correlated with both financial development and financial inclusion in sub-Saharan Africa than everywhere else in the world, population density and GDP per capita are highly favorably correlated<sup>106</sup>.

The main barriers to financial inclusion in Latin America were identified as socio-economic factors (represented as income inequality) and institutional shortcomings (measured as rule of law), with macroeconomic weaknesses (represented as inflation volatility) and financial sector inefficiencies (measured as overhead costs and bank concentration) being relatively less significant. The empirical impact analysis of the literature appears to cover this problem only partially because of the short time span of the available data and the significant amount of missing data about financial inclusion. Only a few research, with varying degrees of

success, have looked into the relationship between financial inclusion, poverty, and income inequality. focused on 37 rising Asian economies, the factors affecting financial inclusion and the importance of financial inclusion in decreasing poverty and income inequality. They discovered that while a higher age-dependency ratio significantly impacted financial inclusion, higher per capita income, rule of law, and demographic structure boosted financial inclusion. The percentage of adults in developing Asia who have completed their primary school and the literacy rate have no discernible impact on this number. Additionally, when more regressors are taken into account, there is evidence that financial inclusion decreases income disparity as well as poverty<sup>107</sup>.

Principal component analysis and a cross-sectional approach were used to provide a new financial inclusion index for 151 economies and examine the impact of financial inclusion on poverty and income inequality across country income groups. The findings show that higher levels of financial inclusion significantly correlate with faster economic growth and lower rates of poverty, but only in high- and middle-high-income nations, not in middle-low or low-income ones. They did not, however, discover any appreciable impact of financial inclusion on income disparity in any income level<sup>108</sup>.

The percentage of adults in 162 economies who use formal financial intermediaries and how this relates to inequality and poverty. The cross-sectional series that incorporated published data and household survey data sets was used to create the composite financial access indicator. The findings demonstrate that, when considered alone, financial access significantly reduced poverty, but not when other control variables—such as per capita income, private credit as a percentage of GDP, inflation, institutions (such as the KKZ index and the Freedom House Bank), population size, and a dummy for sub-Saharan Africa—were also taken into account as regressors. Additionally, there was evidence that financial access significantly reduced income inequality both on its own and when financial depth was taken

into account (private credit as a percentage of GDP and inflation). However, the result did not hold when per capita income and a dummy for sub-Saharan Africa were taken into account.

Effect of financial inclusion on lowering levels of poverty among low-income households in 35 sub-Saharan African nations. By giving the poor more access to net wealth and welfare benefits and using cross-sectional data from 2011, they discovered that financial inclusion considerably lowered the degree of poverty in sub-Saharan Africa<sup>109</sup>.

In India, raising household income and enhancing family well-being were significantly impacted by the gender perspective, particularly impoverished women's engagement in financial inclusion programs in general. The development of state-run bank branches into rural areas that were previously unbanked considerably reduced rural poverty in India by enabling access to formal sector credit and saving opportunities. The researchers found that providing poor smallholder cash-crop farmers in Malawi with commitment savings accounts enhanced financial access had a significant positive influence on their quality of life by giving them access to money for agricultural input<sup>110</sup>.

The contribution of both financial development factors—financial inclusion and financial sector size—to the decline in income inequality. When important relevant variables, particularly economic development and fiscal policy, were taken into account in the regression analysis, they discovered that financial inclusion helped to reduce income disparity. It's interesting to note that the scale of the financial system and financial deepening did not significantly help to a more equitable distribution of income. Although there were probably trade-offs, financial participation, cost monitoring, and loosening collateral restrictions helped to promote growth and reduce inequality in Latin America and the Caribbean<sup>111</sup>.

Based on regional data from Mexico, the study looked at how financial participation affected income distribution disparities. The findings suggested that as financial inclusion continued

to increase within Mexican towns, it would first increase income inequality but eventually dramatically reduce it. Despite the fact that all of these studies point to connections between financial inclusion, poverty, and income inequality, they lack a thorough understanding of this relationship because they did not use panel data studies and because they used a small number of variables to create financial inclusion indices. With a wide range of variables for the financial inclusion index and a panel data set made up of a significant number of developing nations in Asia, Africa, Latin America, and the Caribbean, this study attempts to add to the body of literature regarding impact analysis of financial inclusion on poverty and income inequality.

The results show that while financial inclusion has a short-term favorable effect on economic growth, it has a long-term favorable effect on the development of human capital in South Asian nations. Using financial inclusion variables like currency in circulation, deposits in microfinance banks, number of commercial bank branches, commercial bank credit to the private sector, loans and deposits of rural commercial bank branches, and nominal GDP, this study examined the effects of financial inclusion on economic growth in Nigeria from 1992 to 2018. The data were assessed using the OLS and Granger Causality tests. The findings showed that deposits made by rural branches of commercial banks have a causal effect on GDP in Nigeria and a positive relationship, though not a significant one, while loans made by these branches have a causal effect on economic growth in Nigeria and a significant positive relationship. Using ordinary least squares and an error correction model, the study also looked at the impact of financial inclusion on reducing poverty among low-income earners in Nigeria between the years of (2004 and 2018). Financial inclusion was proxied by the Loan to Depositor Ratio (LDR), Loan to Rural Areas (LRA), Financial Deepening Indicators (FDI), and Social Investment Loan (SIL) to SMEs, whereas poverty alleviation was proxied by the Poverty Index (PI) and Per Capita Income (PCI). According to the report, financial inclusion

programs significantly contribute to the reduction of poverty among Nigeria's low-income earners. Additionally, it lowers the rate of poverty and raises per capita income, raising the standard of living through the new social investment program<sup>112</sup>.

The Fully Modified Ordinary Least Square (FMOLS) and Granger Causality test were used between 2001 and 2016 to look into the role of financial inclusion as a driving force behind sustainable development in Nigeria. A number of commercial bank branches, demand deposits from rural areas, and loans to rural areas were found to be causally related to HDI in the short run. However, in the long run, the explanatory factors were found to have a positive, significant impact on HDI in Nigeria. The key finding was that Nigeria's long-term growth is impacted by financial inclusion.

Using time series data from 2002 to 2015, examine the effects of financial inclusion on the reduction of poverty in Nigeria. The method of multivariate regression using ordinary least squares was used in the investigation. It has been discovered that financial inclusion significantly affects per capita income, lowers the rate of poverty, and raises living standards. Nigerian economic growth and financial inclusion as determined by the two-staged least squares regression method. Results showed that during the review period, Nigeria's economic growth was significantly impacted by financial inclusion. Using the ordinary least square regression method, the effect of financial inclusion as a driver for poverty reduction between 1992 and 2016 is shown. The average number of deposit money bank customers, average cost of loans to the agricultural sector of the economy from deposit money banks, average loan size to the agricultural sector of the economy from deposit money banks, and number of deposit money bank branches in the nation served as proxy measures for financial inclusion while the average per capita income, average current and savings and average loan amount from deposit money banks to the agricultural sector of the economy. All have a strong and significant positive link with the amount of per capital income in the nation, according to the

results. The impact of microfinance banks on expanding financial inclusion in Nigeria from 1990 to 2014 was examined using the ordinary least squares approach. The results also showed that having access to a microfinance minimum deposit amount significantly affects rural residents' savings accounts, while microfinance interest rates have a negative and non-significant effect on rural residents' ability to access financial services, particularly through loans and advances. Using standardized questionnaires distributed to a small number of chosen respondents in the research region, financial inclusion is used in Nigeria as a technique to reduce poverty and redistribute income. According to the study's findings, financial inclusion in Nigeria is a real tool for reducing poverty and redistributing income<sup>113</sup>. Using descriptive analysis, examine the effect of microfinance on rural transformation in Nigeria. The results demonstrated that micro-financing had a favorable impact on the rural population by enabling them to access capital for farming and other income-generating endeavors, hence reducing the negative consequences of poverty.

Assessment of efforts at expanding financial inclusion in Nigeria was examined. The Central Bank of Nigeria (CBN), in October 2012, crafted a National Financial Inclusion Strategy (NFIS) for achieving 80% overall financial inclusion by year 2020 from the base line figure of 46.3% in 2010. The CBN refreshed/revised the 2012 NFIS in 2018 to address changes in the regulatory and financial technology landscape with a view to accelerate achievement of the strategic objective of 80 per cent financial inclusion by the year 2020. This study reviews relevant literature to assess efforts at expanding financial inclusion through the strategy encapsulated in NFIS (2018). Data was gathered from published sources (Enhancing Financial Innovation and Access in Nigeria Survey reports, World Bank Global Findex reports, the Central Bank of Nigeria; Interswitch & Nigeria Inter-Bank Settlement System annual reports) as well as supply-side data derived from statutory returns submitted by financial service providers to their respective regulatory agencies. Evidence from the study

show that 2018 financial inclusion targets (products, channels, enablers, financial literacy & other initiatives for youth and gender inclusion) fell short of expectations, indicating that the 2020 targets are unlikely to be met. This study recommends that the identified critical challenges militating against financial inclusion expansion should be addressed. In particular, financial education among all stakeholders in the financial inclusion process should be instituted more purposively<sup>114</sup>.

A study established the microfinance and financial inclusion nexus in Nigeria from 1981 to 2017. The Augmented Dickey-Fuller (ADF) test, co-integration test and Error Correction Model (ECM), as well as diagnostics and stability test were employed in the analysis. The research findings revealed that microfinance has positive significant effect on financial inclusion in Nigeria in the short-run and long-run. This finding is in line CBN objectives for the establishment of microfinance banks. The effect of lending interest rate has a positive but has no significant with financial inclusion in the model one while it is statistically significant with poverty in Nigeria in the mode two. The positive lending interest rate has a statistically significant effect on the level of financial inclusion and national poverty index used as a proxy for poverty rate in the long run in the models. Also, the research also found that microfinance has really a tool to fight against poverty in Nigeria in the short-run, while it's not really a tool to fight against poverty in the long-run in Nigeria. It was therefore recommended that Government agency and regulatory authority policies and practices need to play a key role in making micro-credit available to the economically-active poor people who are not being served by the formal financial sector. Also, apart from monitoring lending interest rates, the government needs to establish frameworks to prevent undercapitalization, fraudulent practices, and unwarranted interference from bank board members in Nigeria<sup>115</sup>.

A study examined the effect of financial inclusion on the performance of women entrepreneurs in Nigeria. Four hundred (400) women entrepreneurs from Lagos, Osun and

Oyo States were randomly selected and data were analyzed using descriptive statistics, multiple regression analysis, and spearman rank correlation coefficient. The study established that financial inclusion performs an important role in enhancing the performance of women entrepreneurs in Nigeria. Financial inclusion indices which are usage, accessibility and affordability of financial services affect the performance of the entrepreneurs positively and significantly. Financial inclusion is an important strategy which unlocks the development capability of women entrepreneurs, reduces their vulnerability, boosts growth and encourages sustainability of businesses. Findings revealed that financial inclusion correlates positively with age, education, and income level. This means that an increase in any of the variables subsequently increases the extent of financial inclusion. Marital status and household size on the other hand, have a favorable but insignificant effect on financial inclusion. Furthermore, it was discovered that there exist a strong positive association between the performance of women entrepreneurs and financial inclusion ( $R=0.655$ ,  $p<0.01$ ). This means that the more financially included these women are, the higher their performances. However, findings revealed that irregular income of women entrepreneurs, banks' branches which are far, documentation issues, illiteracy and low educational levels of women are major challenges affecting financial inclusion. This study therefore recommends that financial service providers should launch extensive initiatives to encourage financial education among women entrepreneurs in order to erase fears about using formal financial services. Access to finance should be made easier in order to stimulate job creation and enhance entrepreneurial ventures, which would undoubtedly raise the income of women entrepreneurs<sup>116</sup>.

A study assessed the promise of financial inclusion for developing economies. Financial inclusion is considered to be a tool to tackle poverty, promote equality, and support economic growth. Sustainable development goals can be achieved through financial inclusion as it implies access to and availability of financial services to disadvantaged groups, especially in

developing economies. Despite the fact that financial inclusion is included in the political agenda of many countries, the studies are still scarce in particular from different perspectives and contexts. This study outlines the characteristics of financial inclusion and aspects shaping financial inclusion. Moreover, implications of Financial Inclusion for developing and emerging economies are investigated and digital technologies in FinTech for financial inclusion are explored. Finally, the recommendations are suggested to eliminate poverty and ensure equality through the financial inclusion agenda<sup>117</sup>.

In a study titled monetary policy effectiveness and financial inclusion in Nigeria. The extent monetary policy is effective in achieving financial inclusion has been scarcely investigated in the literature. Hence, this study examined the extent monetary policy is effective in achieving financial inclusion in Nigeria and whether FinTech improves or impedes this relationship. Quarterly time series data spanning from 2009 to 2019 from the Central Bank of Nigeria were used for estimations. Johansen's cointegration test and fully modified OLS were used to carry out the analysis. The result shows that measures of monetary policy effectiveness, such as inflation rate and lending rate all had a significant effect on financial inclusion in the country. It was also discovered that accounting for FinTech in the model improves the effectiveness of the monetary policy on financial inclusion in Nigeria, contrary to popular assertion that Fintech impedes monetary policy effectiveness. The study concludes by emphasizing the role of monetary policy in achieving financial inclusion in Nigeria<sup>118</sup>.

In a study titled financial inclusion in India: an assessment. Financial inclusion can be defined as a process of providing financial services to the poor and deprived sections of the society, whose income is low. The main objective of financial inclusion is to remove all the barriers that prevent people from getting financial assistance and provide financial services without any discrimination like banking i.e., savings and payments through bank branches, ATM, cheques, and e-transfer; Insurance i.e., life as well as non-life (general) insurance;

credit i.e., loans at affordable rates; investment opportunities like mutual funds, pension plans, child investment plans etc. This study is an attempt to know about the present status of financial inclusion and various measures taken by government for greater financial inclusion in India. The study highlights the impact of financial inclusion if they are present or absent in an economy and importance of financial inclusion in economic and social development<sup>119</sup>.

A study examined the role of financial inclusion in the reduction of poverty in Nigeria. It examines the roles of government and financial institutions and the use of various mobile initiatives such as mobile banking, mobile money, agent banking etc. as financial inclusion tools to stimulate poverty reduction. Time series analysis on data obtained from secondary sources between the periods of 1992 and 2016 was adopted and the study covered financial inclusion as it relates to unbanked people in Nigeria. The study found out that majority of the unbanked in Nigeria are low income people who do not have access to financial services and information on financial inclusion. While few are timid on the need to use a bank, many are willing to use banking services and believe the availability of these services will help improve their economic condition. The study therefore recommends that the banks should be encouraged to continue to take advantage of all the financial inclusion policies of the government in mobilizing funds from the informal sector into the banking system. This can be best done by increasing the number of customers within the financial system as a tool for encouraging financial inclusion and stimulating the economy and thereby reducing poverty in the country<sup>120</sup>

A study investigated how financial inclusion affects gender-based poverty in Nigeria. Commercial bank branches, deposits, and borrowers were the proxy for financial inclusion. The poverty index was used to measure poverty reduction. The World Development Indicator (WDI) and the CBN Statistical Bulletin 2021 provided the data for this study. Finally, the study included the years 2002 to 2019. Financial inclusion reduces household poverty in

Nigeria, according to the study, which used a VAR estimate. The coefficients of commercial bank branches and commercial bank deposits were (-0.004) and (-0.008), respectively, indicating that they had a negative influence on poverty reduction. Furthermore, the study discovered that having access to credit through a financial institution was crucial in lowering poverty in Nigeria over the study period. As a result, the report recommends that steps to promote the rule of law, particularly contract enforcement and financial regulatory inspection, be implemented, resulting in more financial inclusion and a reduction in poverty and income gaps, particularly between men and women. The benefits of financial inclusion must be made more widely known, particularly in rural regions, through promoting financial literacy among the poor through education, advertising, and traditional institutions<sup>121</sup>.

A study evaluated the legal framework for Islamic banking and the quest for financial inclusion in Nigeria. The legal framework for Islamic banking is incoherent and in some cases, vague. The laws do not contemplate the fundamental conditions required for Islamic banking to thrive, as they have been originally designed to suit conventional banking. This study utilizes document analysis technique, Islamic jurisprudence and Nigerian laws to examine the legal framework for Islamic banking and the quest for financial inclusion in Nigeria. Similarly, policy initiatives to promote financial inclusion through Islamic finance seem half-hearted in design and overly cautious in implementation. The study observed that conventional banking has not really worked in the best interest of Nigerians, especially in securing loans for investments. In fact, it's over-reliance on interest, loose prudential guidelines and its general capitalistic foundations have brought it into collision with the Islamic and customary principles of communality as against individuality known in Nigeria. Securing loans for investments comes with<sup>122</sup>.

In a study titled Informal Saving Group: A Pathway to Financial Inclusion among Rural Women in Nigeria. Financial inclusion is a key to economic development and has continually

gained increased attention across countries, particularly in developing countries where there is relatively high rate of financial exclusion. In Nigeria, despite several measures taken to promote financial inclusion, there is still high rate of financial exclusion among rural women, as rural people and women are generally more financially excluded. This article provides an overview of financial inclusion, analysis of the patterns and dynamics of financial inclusion in Nigeria and the pathway for promoting financial inclusion among rural women is discussed. The article posits informal savings groups as a potential pathway to financial inclusion among rural women, by reviewing journal articles and grey literatures. The review shows that most rural women are participating in informal saving groups, but these saving groups are however faced with some challenges, such as limited income base, inability to receive remittance and vulnerability to theft. The pathway to financial inclusion among rural women discussed include, sensitizing these rural women through financial literacy, thereafter fostering informal saving groups which most rural women are already aware of their operations and thirdly, linking these groups to formal financial institutions. We conclude that informal saving groups have great potentials of accelerating financial inclusion among rural women, therefore Government should carry out financial literacy campaigns among rural women and policies that promote financial inclusion should be designed building on informal saving groups<sup>123</sup>.

A study examined financial inclusion in Nigeria: a gender gap approach. It also determined the factors responsible for the gender gaps. The Global Findex (2014) dataset of Nigeria from World Bank database was used to analyse the aims of the study. In the study, 61% of the men were financially included, while only 43% of the female were financially included, with 18% gap. The gap in endowments accounted for the huge difference of the gap in outcomes as males seemed to be more naturally favoured by society than females. The level of education, wealth quintile, saved in past 12 months for farm/business purposes, sent domestic

remittances in the past 12 months, paid utility bills in the past 12 months, and received wage payments in the past 12 months are the factors explaining the gender gaps in Nigeria. Thus the government and other relevant stakeholders should encourage females along these factors<sup>124</sup>.

A study examined the impact of financial inclusion on household welfare using Findex 2017 data. Although improving household welfare is essential to the attainment of numerous United Nations Sustainable Development Goals (SDGs), developing countries such as Nigeria has continued to make negligible progress in enhancing household welfare and boosting prosperity with majority of her population still struggling to attain a minimum standard of living. Policy makers has suggested that financial inclusion could be a panacea for welfare improvement. The study is a Quantitative research. It made use of quasi experimental research design. The target population are households from 15 years and above. The study performing a counterfactual analysis using propensity score matching technique found that financial inclusion has a positive significant impact on household welfare. The study recommended among others that to achieve increased financial inclusion for all, government, regulatory agencies, financial service providers need to concentrate on improving the existing framework for branchless banking so that individuals can get these financial services without having to go to a physical bank<sup>125</sup>.

In a study titled *Enhancing Financial Inclusion in Nigeria: The Role of Islamic Finance*. This study reviewed theory and literature in order to synthesize the role of Islamic finance in enhancing financial inclusion. The review revealed that Islamic finance helps in ensuring financial inclusion through the provision of Shariahcompliant, risk-sharing financial products and services. In addition, the Islamic social finance products such as Zakah, Sadaqah and Waqaf compliments the commercial aspects. Consequently, Islamic finance helps in reducing voluntary financial exclusion and extreme poverty. The study also highlighted the role of

government in promoting financial inclusion through the development of appropriate regulatory and supervisory frameworks, financial inclusion strategies, protecting consumers and advancing financial literacy. The study recommends the sustained application of risk-sharing financial products by Islamic financial institutions in Nigeria. In addition, Islamic banks should complement their financing products with Zakah, Sadaqah and Waqaf. Furthermore, government should sustain its efforts towards consumer education and financial literacy<sup>126</sup>.

A study examined the effect of financial inclusion on unemployment rate in Nigeria from 1986 to 2019 using secondary data sourced from CBN statistical bulletin and Index Mundi. Commercial banks' loans and advances (CBLA) to rural communities and Microfinance banks' loans and advances (MFBLA) to rural communities were used to proxy financial inclusion while unemployment rate. The hypothesis was tested using Ordinary Least Square Method. The findings revealed that Microfinance banks' loans and Advances have significant relationship with GDP per Capital Income and Human Development Index, but insignificant relationship with unemployment rate, while CBLA is negatively relates with unemployment rate. The study concludes that MFBLA has increased the standard of living of the rural dwellers more than CBLA except in the case of employment. The study recommends that MFBLA should be direct to entrepreneurial development other than commercial activities. This study recommended that MFB needs to be empowered for more expansion which will create more employment opportunities for the rural dwellers<sup>127</sup>.

In a study titled A Composite Measure of Financial Inclusion in Nigeria (1992-2019): A Principal Component Analysis Approach. Owing to gaps in the literature regarding the dearth of a robust and an all-inclusive measurement of Financial Inclusion, this study gauges the level of financial inclusion for Nigeria. Adopting the use of the PCA as an indexing mechanism, the study condenses 22 selected aggregate indicators into a single comprehensive

static that can serve as a measurement of financial inclusion for the Nigerian economy. The selected indicators comprises not only indicators germane to the banking sector, which has become traditional in other studies but advances its investigation to include the contribution of previously neglected indicators that captures other sub-sectors (like Insurance and Mortgage) and financial markets (like Stock market) that constitutes the financial system. In a two-stage PCA analysis, the results indicate that the non-bank sectors contribute more to the supply of financial services in Nigeria than the banking sector. The results also suggest that the demand for financial services in urban centres outmatches that of the more populated rural areas. Generally, the results indicate a slow and sluggish rise in Financial Inclusion for the duration of the study scope. Hence, the study recommends that effort be made to collating demand-side data as available data is restrictive. The study also recommends that policies and programmes with the specific aim to increasing available points of service in rural settings be pursued should financial authorities hope to meet stated goals<sup>128</sup>.

A study investigates the link between Cashless policy and financial inclusion in Nigeria with selected respondents within Kano Metropolis. The main objective of the study is to determine the extent to which business models of financial services, increases awareness of electronic channels, enhanced formal financial services and accessibility of payment infrastructure affect financial inclusion. The study was conducted using a sample of 384 adults that were conveniently selected in Kano Metropolis. The collected data were analyzed using Multiple Linear Regression (MLR) analysis using SPSS (Version 19). The Results showed three of the four variables of Cashless policy were significantly related. Specifically, Awareness, Consumer/User Value Proposition, and Infrastructure were found to have strong significant relationship with Financial Inclusion while Business Model of Financial Service Providers did not show any significant relationship with Financial Inclusion. The study recommends that Federal Government should pay adequate attention to the provision of infrastructural

facilities across the country. A massive awareness campaign on the benefits of Cashless policy should be embarked upon by the Central Bank of Nigeria and all formal financial service providers and other stakeholders in the country for full and successful implementation of the policy<sup>129</sup>.

A study estimated the impact of financial inclusion on financial stability of Nigeria over the period of 1982-2019. Adopting the Classical Regression Model, the findings reveal that financial inclusion impacts positively on financial stability. Deposits of rural branches of commercial banks reflected a positive relationship with financial stability, while investment also had a significant positive relationship with financial stability. The study recommended that policies should be directed towards creating more investment opportunities and inclusive financial system to improve the current level of financial inclusion, so as to achieve better financial stability in Nigeria<sup>130</sup>.

A study examined the impact of cashless payment systems on financial inclusion in Nigeria. This was aimed at ascertaining the level of financial inclusion caused by the cashless policy. The study was hinged on the theories of technology acceptance and diffusion of innovation. Thus, primary data was sourced and collated via structured questionnaires administered to 117 respondents and analyzed using simple percentages and presented using graphs. The data was further estimated using the ordered probit regression technique. The results indicate that nearness of financial products and service outlets to rural settlements, ease of digital financial transactions and reduced visits to banking halls aided by access to cashless payment mediums has enhanced financial inclusion in Nigeria. It also emerged that efficiency of cashless payment channels does not significantly reduce the use of financial products and services, hence financial inclusion. Furthermore, the results indicate that the desire to own bank account and excessive digital payment charges has a positive but insignificant influence on financial inclusion in Nigeria. The study concludes that cashless payment channels have

enhanced equal access and use of financial products and services in Nigeria. The study recommends that the adoption of advanced financial technology (Fintech) that integrate all the attributes of the user groups would enhance user friendliness and further accelerate the penetration and use of bank financial products and services to rural settlements<sup>131</sup>.

A study evaluated a comparative analysis of interregional and intraregional inequalities in terms of financial inclusion across Moroccan regions; Also, explore the determinants of regional financial inclusion in a panel of 12 Moroccan regions. We used the principal component analysis methodology to construct our regional financial inclusion indexes, and the panel data estimation methodology to identify the determinants of regional financial inclusion. Our regional financial inclusion index shows that the majority of regions have a low level of financial inclusion. This is symptomatic of a very asymmetric distribution. For all regions, we found that intraregional inequalities in access to bank branches by locality/province or prefecture increase as we move away from the region's main city. Empirical results indicated that a region's human development level, as proxied by the Human Development Index (HDI), the size of its population, and the industrialization level of its economic fabric are the main determinants of a region's financial inclusion level. The Moroccan financial system authorities have implemented several reforms (the banking law no. 2-91-967 of July 21, 1993) and strategies (National Financial Inclusion Strategy) aimed at promoting financial inclusion in Morocco; however, the increase in the level of financial inclusion at the macrolevel has not benefited all segments of the Moroccan population. This study is original as, to our knowledge, it is the first to mobilize interregional and intraregional data, as opposed to previous studies that are national-level oriented. Given the mapping of interregional and intraregional inequalities in access to, and use of, formal financial services, policymakers can rely on our index to formulate useful financial inclusion policies and to target rural localities, provinces or prefectures, and priority regions in Morocco's National

Financial Inclusion Strategy. The financial system should provide financial services tailored to regional financing needs. Moroccan policymakers should focus on filling gaps in levels of regional human development, as the latter is a key factor in regional financial inclusion<sup>132</sup>.

A study examined the determinants of financial inclusion in Nigeria. This was aimed at ascertaining the level of financial access in Nigeria. Thus, supply side data spanning 2000 to 2018 were collated for estimation. The data were sourced from the World Development Indicators and Central Bank of Nigeria databank. The time series data were estimated using ordinary least square technique. This study examines the determinants of financial inclusion in Nigeria. This was aimed at ascertaining the level of financial access in Nigeria. Thus, supply side data spanning 2000 to 2018 was collated for the estimation. The time series data were estimated using the error correction technique. The findings indicates that commercial bank branches and deposit interest rate exert a negative and insignificant impact on financial inclusion. Further results indicate that domestic credit to private sector (% of GDP), ratio of rural deposits to loans and lending interest rate exert a positive and significant impact on financial inclusion. The evidence further indicate that gross domestic product per capita bears a positive and insignificant consequence on financial inclusion. The study concludes that domestic credit to private sector (% of GDP), ratio of rural deposits to loans and lending interest rate are the determinants of financial inclusion in Nigeria. The study suggests for lending interest rate to be made attractive to encourage continuous access to loanable funds in the market. The target therefore should be aimed at cultivating a conducive financial system that upholds financial access driven rates. That is, rates (that are not too low or excessive) that would encourage economic agents to save and borrow to spur economic activity<sup>133</sup>.

A study defined digital financial inclusion, and highlights the goal of digital financial inclusion, the components of digital financial inclusion, the providers of digital financial services, the instruments for digital financial inclusion, the benefits of digital financial

inclusion, the risks of digital financial inclusion, and the regulatory issues associated with digital financial inclusion. It also suggests ways to make digital financial inclusion work for the good of all. The study concluded that a great deal of progress need to be made, and it will require the use of existing and new innovative digital technologies to adapt financial services to meet the needs of everyone towards financial inclusion<sup>134</sup>.

Drivers of Financial Inclusion and Gender Gap in Nigeria was analysed. Financial inclusion serves as an effectual tool to reducing poverty and improving welfare of generality of the masses thereby attaining inclusive growth. This study has been informed by the mission of World Bank Group to achieve universal financial inclusion. The study analyses the drivers of financial inclusion and its gender gap in Nigeria using The Global Findex 2011 dataset. The study adopts Binary Probit Model and technique of Fairlie decomposition to realize its objectives. The empirical findings suggest that youthful age, better education and high income improve the chances for households to be financially included whereas old age, female and low income reduce the likelihoods for households to be financially included. The decomposition results confirm the existence of gender gap in financial inclusion in favour male households, to which education (particularly secondary) and income quintiles 2 and 5, contribute significantly to the explained gap. Focusing on these significant determinants of financial inclusion during formulating and designing policies would be useful in improving financial inclusion in Nigeria<sup>135</sup>.

Empirical studies about Financial inclusion remain vital, especially in developing countries like Nigeria, where little research studies have been conducted since the introduction of the Cashless economy policy. Review of relevant literatures reveals lack of comprehensive empirical research regarding the relationship between the Cashless economy policy and financial inclusion in Nigeria. In this study, results showed that Awareness, Consumer/User Value Proposition, and Infrastructure were found to have strong significant relationship with

Financial Inclusion while Business Model of Financial Service Providers did not show any significant relationship with Financial Inclusion<sup>136</sup>.

A study examined the determinants of financial inclusion in Nigeria using a time series data for the period of 1990 to 2016. The study employed Error Correction Model (ECM) after conducting unit root test and cointegration test. The estimated result revealed positive and significant relationship between the financial inclusion and the proposed variables. Specifically, the higher a country's GDP per capital, the more the financial inclusion in their financial system. Likewise the broad money given the continuous increase in the amount of money in circulation which will definitely improve financial inclusion in the country. Credit and internet users per 100 people also have positive and significant impact on financial inclusion. While the significant impacts of internet access have very vital implication for financial inclusion as the more the use of internet, the more the financial inclusion through extension of financial services to larger number of people living in the rural area without the exhaustive use of the internet, financial inclusion will be very teeny and extension who would have been excluded from the formal financial service in the country. The internet has fundamentally abridged the cost of transactions, through the use of mobile and the ATM. This has increased the capacities of credit delivery in remote areas in the country and has made it possible to provide home banking services where the accounts are operated by illiterate customers using mobiles phones<sup>137</sup>.

In a study titled enhancing financial inclusion in Nigeria through agent banking: prospects, benefits and challenges. There has been an appreciable growth in the gross domestic product (GDP) of Nigeria and some African countries in the past decade. The growth is now being scrutinized by many due to the inability of these countries to translate the impressive GDP growth rate into improved standard of living of its citizens. While Nigeria's GDP grew at an average of 7 percent in the past decade, the incidence of poverty has actually worsened.

Attention is now being paid to issues that can lead to reduction poverty. One area of attention since the early 2000 is the role of financial inclusion in reducing poverty. Studies have shown that financial inclusion is a tool for inclusive economic growth and poverty alleviation. An increasingly popular instrument for financial inclusion globally is agent banking. This study examined the prospects of agent banking in increasing financial inclusion in Nigeria as well as its benefits and challenges. The study concludes that agent banking is a veritable tool for financial inclusion in Nigeria. It opines that if agent banking concept is adopted by financial institutions in Nigeria, banking services especially savings and credit will be available to a large portion of the unbanked and financially excluded members of society. Access to financial services will assist in the mobilization<sup>138</sup>.

A research focused on financial inclusion and markets. It is important for India that the banking sector strengthens by reducing the NPAs and therefore get rewarded adequately by the market. However, with significant portion of the population who are left outside the ambit of formal financial sector, any effort to include them needs to be rewarded by the market as well for it to remain feasible in the long run. In this article we explore how the stick prices of banks react to such an effort as more bank accounts are opened under the financial inclusion mandate. During this period, India saw unprecedented level of Non-Performing Assets (NPAs) and growth of financial inclusion and electronic payments. Partly, owing to the rising NPAs, towards the end of the period consolidation and bank mergers took place. However, given that still a significant portion of the population is left out of the banking system, the thrust towards financial inclusion is particularly important. Did the market reward such financial inclusion initiatives? We find that, more than the number of accounts, the activities in those accounts in terms of deposits gets rewarded by the market<sup>139</sup>.

A study attempted to evaluate impact of financial inclusion on sustainable development. Financial inclusion is a catalyst for achieving sustainable development. Both Error Correction

Model (ECM) and Fully Modified Ordinary Least Square (FMOLS) were used to ascertain the short-run and long-run relationship respectively among the variables which covers the period from 2001 to 2016, as data for HDI (Human Development Index) were available for Nigeria from 2001 through 2016 only. The result of the analysis indicated that in the short-run there is short-run causality running from a number of commercial bank branches, demand deposit from the rural areas, loan to rural areas to HDI. The long-run result revealed that the explanatory variables consisting of loan to rural areas, number of commercial bank branches and demand deposit from the rural areas all have positive significant impact on HDI in Nigeria. The overall result revealed that financial inclusion has impact on sustainable development in Nigeria<sup>140</sup>.

A study examined the impact of financial inclusion and microfinance banks on poverty alleviation in Nigeria using time series data for the period 1999 to 2017. The data used were sourced from World Bank indicators, 2018. The study employs the unit root test to determine the stationary state of the variables. It also employs Error Correction Mechanism (ECM) and the ordinary least squares multivariate regression technique to determine the short-run and longrun impact of financial inclusion and microfinance bank loan on poverty alleviation in Nigeria. The study finds that financial inclusion and microfinance bank loan has not contributed to poverty alleviation in Nigeria. The study recommends among others that the government should through the Central Bank of Nigeria encourage the accessibility to financial services in deposit money banks by reducing the interest rates as this would enable people to access financial services from commercial banks and this will promote investment, increase income generation and thereby reducing poverty level and enhancement of standard of living of Nigerians<sup>141</sup>.

In a study titled Financial Inclusion: Theory and Policy Guide for Fragile Economies. It is empirically argued that economic development largely depends on an increased productivity,

the mitigation of income inequality, reduction of dependency on natural resources, improvement of health outcomes, quality enhanced environmental settings, and most importantly a sustained economic growth. It is further established that all the above stated developmental indicators within a market economy do require a quality financial system, which collects information to facilitate an ex-ante evaluation as well as ex-post monitoring of investment opportunities, to ease information asymmetry, which is a known market problem. Furthermore, to facilitate an efficient allocation of resources to drive innovative projects, which will produce quality products and services. The postulation presented herein is empirically established to derive its success from a sustainable financial inclusion, which the study is to advance a conceptual proposition towards an effective and efficient financial inclusion of a fragile economic setting, and its underlying policy architecture to sustain performance effects, in both medium and long term purpose<sup>142</sup>.

A research evaluated the impact of financial inclusion on agriculture in Nigeria. Can an rural financial inclusion enhance agricultural growth? This study, using annual data over the period 1981-2014 and the ARDL bounds testing approach, captures the long run as well as the short-run dynamics of the relationship between financial inclusion and agriculture in Nigeria. The results show that usage of financial services has significant impacts on agriculture both in the short and the long run, meaning that for sustainable agricultural development in rural areas, improving financial inclusion is critical. On the contrary, access to finance has insignificant impacts on agricultural growth. The message is: While provision of access to finance to rural farmers could have many benefits, it is more important to consider the usage of the finance in the rural settings and its impact on rural outcomes that we care about. There is a need for more traditional and non-traditional financial service providers to go back to the land and innovate in the Nigerian agricultural space in order to boost financial inclusion in Nigeria while also substantially reducing poverty and stimulating agricultural growth<sup>143</sup>.

In a study titled financial inclusion and economic growth in Nigeria. The presence of shadow money which has weakened the effectiveness of the monetary policy has been widely attributed to financial exclusion. As a result, the Central Bank of Nigeria since 2010 adopted financial inclusion as one of its goals for subsequent years. Explicitly, the rationale behind this is to guarantee financial access for all which can alleviate poverty, enhance employment creation and improve credit creation. Thus, the target is to absorb the unbanked populace largely in the informal sector into the formal financial system. Therefore, the study assessed the impact of financial inclusion on economic growth in Nigeria. The Auto Regressive Distributed Lag (ARDL) and Causality techniques were used to analyse data for variables viz; Gross Domestic Product, Loans to Rural Areas, Deposits from Rural Areas, Number of Bank Branches and Interest Rate for the period 1986 -2018. The study discovered that financial inclusion has significant positive effect on economic growth while interest rate has a significant negative impact on economic growth. Meanwhile, the causality test revealed a unidirectional causality from economic growth to financial inclusion majorly through the channel of loans to rural areas. Thus, due to the credence given to financial inclusion by the empirical results in the study as well as the role of economic growth in driving inclusion, it is recommended that loans extended to rural areas should be granted at lower and affordable rates with less bureaucratic demands as this factor is a major inclusion variable that guarantees growth according to the empirical findings<sup>144</sup>.

A study employed the Error Correction Model to examine the effect of financial inclusion on small and medium enterprises in Nigeria from 1990 – 2019. A co-integration relationship exists between small and medium enterprises and financial inclusion (measured by deposit/savings, access to financial institutions, and the credit to the private sector). The result revealed that financial inclusion (deposit/savings and access to banks) has a positive and statistically significant effect on small and medium enterprises in the study period.

However, access to credit has a significant and negative effect on small and medium enterprises. Based on these findings, policymakers are therefore advised to put in place strategies that will further enhance the level of financial inclusion through access to financial institutions, deposit/savings, and provide favorable lending facilities climate to ease access to credit in Nigeria to improve SME's<sup>145</sup>.

A study focused on the strong critique of Financial inclusion. This study presents some criticisms of financial inclusion. It notes that the following critics: financial inclusion is an invitation to live by finance and leads to the financialisation of poverty; some of the benefits of financial inclusion disappears after a few years; financial inclusion ignores how poverty affects financial decision making; it promotes digital money which is difficult to understand; financial inclusion promotes the use of transaction accounts; digital money is difficult to understand; and that some financial inclusion efforts bear a resemblance to a campaign against having cash-in-hand. This study will help policymakers in their assessment of the economic, social, political and cultural factors that hinder financial inclusion as well as the consequence of financial inclusion for society. For academics, this study will provide a critical perspective to on-going financial inclusion debates in the large positivist literature on financial inclusion<sup>146</sup>.

In a study titled financial inclusion in a developing country. Financial inclusion is regarded as a fundamental element that makes economic growth inclusive as access to finance should enable economic agents to make long-term consumption and investment decisions, engage in productive activities, and effectively cope with sudden, unexpected short-term shocks. This research set out to investigate whether the financial inclusion goals set in 2012 by the National Financial Inclusion Strategy committee to reduce the levels of financial exclusion has been achieved. The findings reveal that, there have been sensible gains in increasing the levels of financial inclusion on a macro-perspective: more men and women are gaining

access to financial services and products. However, a breakdown of the financial inclusion data on geo-political arrangements tells a different story. Financial inclusion in Nigeria is not even, with financial exclusion rates significantly higher in North East and North West Nigeria, where exclusion rates are above 60%. Southern geo-political regions have better financial exclusion rates, with financial exclusion rates below 35%. In general, women tend to have higher financial exclusion rates than men, rural population have a higher financial exclusion rate than urban areas. The National Financial Inclusion strategy committee is closer to achieving its 20% exclusion rate in the Southern geo-political zone than the Northern geo-political zones. To attain its 2020 targets on financial inclusion in Nigeria, the focus of inclusion should be increasing access to finance in the rural areas. The method to do this should be the use of branchless banking, improving digital finance infrastructure and designing financial services and products that are tailored to meet the needs of rural men and women, since more than 60% of the population of Nigerians live in rural areas<sup>147</sup>.

A study examined the role of microfinance banks (MFBs) in ensuring that more adults are served by the formal financial system – financial inclusion. It adopted a two-prong approach to achieve this objective. First, it used trends in some financial inclusion indicators to assess MFBs improvement over-time on this score. It also adopted OLS regression in furtherance to this goal. In the formulated model, currency outside banks (COB) was the dependent variable, while number of MFB (NUMFB), MFB deposit (MFBDEP), MFB credit (MFBCR), interest on deposit (INTD), interest on loans (INTL) ratio of MFB deposit to GDP (RDGDP) and ratio of MFB credit to GDP (RCGDP) are the independent variables. The result showed that only Microfinance bank deposit (MFBDEP) maintain statistically significant influence on COB. Further discovery was that increasing number of MFBs reduces COB. It further revealed that increases in MFB lending and interest on deposits also reduce COB and hence enhances financial inclusion. It therefore suggested that MFBs should explore avenues other

than deposits to enhance their lending capacities and that the monetary authorities should help in this by providing low cost funds to MFBs for on lending<sup>148</sup>.

A study presented a discussion about financial inclusion washing. It was argued that financial inclusion washing is the deliberate or unintentional use of exaggerated claims or misleading claims to describe an entity's commitment to increase the level of financial inclusion. The study showed that many entities are at risk of practicing financial inclusion washing such as international development organizations, aid organizations, government agencies, central banks, financial institutions, financial inclusion support groups and associations, among others. The study also highlighted the manifestations, motivations and consequences of financial inclusion washing. The study further identified ways through which entities can avoid financial inclusion washing. Financial inclusion washing has not been considered to be a crime although it should be<sup>149</sup>.

A study determined the role of financial inclusion, money supply and credit to the private sector on the economic growth of Nigeria. Data was sourced from the Statistical Bulletin of Central Bank of Nigeria (CBN) for the period 1981 to 2014 inclusive. Econometric Ordinary Least Square was deployed to empirically test the secondary data on subject. The study found out that in both long-run and short-run relationships, the number of banks' branches, savings rate and lending rate had a significant impact on the real income per person in Nigeria. However, the real income per person did not respond significantly to financial inclusion measure with money supply and credit to the private sector in the long-run and short-run dynamics. Nigeria cannot afford to ignore some 70% of the population who have no bank account and have shown no interest in the banking system. This way, poverty and the great divide in income inequality are unconsciously entrenched. This way too, it implies that the commendable work of CBN through monetary policies is not reaching the grassroots because it is easier to protect the value of the naira when all money is in the financial system. One of

the recommendations of this study is that CBN should liaise with the regulators of tertiary institutions to enthrone the study of the Financial System as a compulsory course the way “Communication in English” is taught to all students under general studies. This will promote financial inclusion among other things at an early age amongst students<sup>150</sup>.

A study investigated the relationship between internet usage, financial inclusion and economic growth in Nigeria for the period 1999 to 2016. Using the time series data for the period, the study utilizes Engle Granger Cointegration Test and the Fully Modified Ordinary Least Squares (FMOLS) approach for analysis. The results showed that Internet usage and broad money have positive and significant effect on financial inclusion. Also, Internet usage has positive and significant effect on economic growth in Nigeria. However, the effect of financial inclusion on economic growth is negative, minimal and insignificant. Furthermore, the effect of the interacted coefficient of internet usage and financial inclusion on economic growth is positive, minimal and insignificant. Hence, the positive effect of internet usage on economic growth in Nigeria is not transmitted through the mechanism of financial inclusion. We recommend that government should strengthen and improve on the positive gains of internet usage on the economy. Also, the monetary authority should take measures to encourage the drive for more savings to improve financial inclusion and ensure that investment by government is channeled into more productive areas to improve the economy<sup>151</sup>.

A study reviewed the progress made on financial inclusion drive in Nigeria with emphasis on the country’s National Financial Inclusion Strategy (NFIS) that was launched in 2012. The discussion includes the achievements, the challenges encountered and the prospects of realizing the set target of reducing national financial exclusion from 46.3 percent in 2010 to 20.0 percent by 2020. Research questions were formulated to guide the strategic assessment at various levels; national, sub-national, and nine key performance indicators (KPIs). In a

descriptive framework based on data covering 2011 to 2014 sourced largely from the Central Bank of Nigeria and Global Findex database, the results indicate that the national financial exclusion declined only marginally from 39.7 percent in 2012 to 39.5 per cent in 2014, with more of the female adult population excluded than male. Two geopolitical zones worst hit by insecurity and environmental pollution issues recorded relatively high exclusion during the period. Out of the nine KPIs evaluated only one had so far nearly met the 2020 target. Thus, with only a marginal improvement in national financial inclusion recorded during the period, concerted strategy implementation of the NFIS remains critically imperative, especially in the areas of maintaining social peace and security coupled with robust mobile money accounts penetration and grassroots financial literacy. The implications of these findings for sustainable financial sector reforms, human capital development, and future research are covered<sup>152</sup>.

A research on implications of money market deepening for financial inclusion in Nigeria. Financial systems all over the world play fundamental roles in the growth and development of the economy, particularly through enhancing the financial intermediation between the deficit and surplus units in the economy. The Nigerian money market and its institutions as a segment of the financial system have received the attention of the government and its agencies over the years since 2004 to improve the access to finance by investors in the country. This forms the motivation for the study which aims at unveiling the implications of the deepening of the Nigerian money market for financial inclusion in the country in recent times. By using qualitative and descriptive methods of analyses, the study reveals that the Nigerian money market has not yet deepened enough to meet the financial inclusion target in the country; low and irregular income; inadequate physical access to deposit money banks especially in rural areas; financial illiteracy, ineligibility and affordability; lack of knowledge and awareness of modern technology and poor interest rates management are serious

impediments to financial inclusion in Nigeria. The study recommends among others a complete overhaul of the financial infrastructure, especially in the rural areas to attract the informal servers of financial services into the formal financial sector; the regulation of policies on financial inclusion that focus on the distribution channels of financial services and retail agent banking are necessary to increase access to finance; a massive enlightenment campaign on financial products and payment techniques is vital to increase patronage and the need to properly monitor the interest rates of banks is important to ensure that they do not unnecessarily charge high rates that are inimical to borrowing by investors as the investment climate dictates. The policy makers should therefore work towards providing an environment where all stakeholders can perform the functions they do best and they should work with clarity and consistency and speed up the process of moving towards greater openness and greater certainty in the electronic payment/identification sphere<sup>153</sup>.

A study investigated the role of the insurance business in financial inclusion in Nigeria for the period 2000-2021. The study adopted an ex-postfacto research design using secondary data from the World Bank and Central Bank of Nigeria updated to 2021. The dependent variable was financial inclusion proxied by the ratio of total bank deposits to the total population while the independent variables were insurance penetration rate, insurance density, dependency ratio, and income level. The data were analyzed using Econometric procedures while the model was estimated using the Error Correction Model technique. The findings revealed that insurance penetration, dependency ratio, and income level had negative effects on financial inclusion in Nigeria for the period studied. However, only the insurance penetration rate and income level significantly decreased the financial inclusion drive in Nigeria. The findings further revealed that insurance density increased financial inclusion significantly over the period studied. Insurance penetration, insurance density, dependency ratio, and income level jointly accounted for up to 88.04% of the changes in financial

inclusion in Nigeria. The study concluded that with less than 1% insurance penetration, and an increasing dependency ratio coupled with low-income level, increased financial inclusion may not be achieved shortly and recommends that the insurance industry should strive to increase the insurance penetration rate through micro-insurance schemes and encourage insurance policies that are savings inclined to enhance financial inclusion in Nigeria<sup>154</sup>.

Nigeria is on track to meet the 2020 targets set out in the National Financial Inclusion Strategy (NFIS) of 2012 which was designed to achieve an overall financial inclusion rate of 80% of the adult population and formal financial inclusion rate of 70% of the adult population, despite the visible impediments majorly in the areas of security in the north. The Central Bank of Nigeria in collaboration with the Body of Bank Chief Executives established the Shared Agent Network Expansion Facility (SANEF) that provides financing to CBN-licensed Super Agents and Mobile Money Operators, to expand their networks to deepen financial inclusion in Nigeria. The lockdowns implemented in countries, starting in March and April 2020, have been the first line of defence, limiting the spread of COVID-19 but coming at the cost of livelihoods and has created immediate challenges for institutions that serve affected communities. The main objective of this study is to propose a framework that examines the effects of COVID-19 pandemic on agency banking as strategy for financial inclusion. As a conceptual study, the study reviews the existing literature and eventually develops the conceptual relationship between the variables of the study. Due to lockdowns Nigerians reported incessant disruptions in access to financial services. Parts of the research findings were that there exist high demand for digital banking services, forcing many traditional financial institutions to fast-track digital innovation efforts. The study also found that 11 percent of Nigerian adults reported difficulty remitting through their preferred bank or financial service agent. Government organizations and regulators should stimulate the expansion of Fintech solutions for enhanced agency banking and financial inclusion<sup>155</sup>.

A study examined the relationship between financial inclusion and financial stability in South Asian countries. To measure the financial inclusion, a multidimensional time-varying index is constructed following the Human Development Index method. The long-run relationship between financial inclusion and financial stability is examined by using the panel cointegration test, fully modified ordinary least squares and dynamic ordinary least squares approaches to show the long-run elasticity of explanatory variables on dependent variables. Further, Dumitrescu-Hurlin panel causality test is used to find the direction of causality between financial inclusion and financial stability. Data set is of annual frequency of seven countries for the period from 2004 to 2018. The empirical findings of this study confirm that financial inclusion has a positive and statistically significant impact on financial stability. These results suggest that South Asian countries can attain long-run financial stability by improving the coverage of financial inclusion. Further, panel causality test shows a unidirectional causality from financial inclusion to financial stability<sup>156</sup>.

In a study titled effect of bank undercapitalization and loan delinquency on financial inclusion in Nigeria. Financial Inclusion involves ensuring that the poor have access to financial services that are relevant to their needs especially in the rural communities. This study investigated the extent to which undercapitalization of rural banks and frequent loan delinquency influence the ability of deposit money banks to drive the inclusive growth agenda of the Central Bank of Nigeria. Out of the 250 questionnaires distributed, 179 were returned and analyzed. Being a categorical data, the study employed optimal scaling regression to measure the relationship between the dependent and independent variables. ANOVA and other statistical tests were also conducted. The study found that loan delinquency, undercapitalization and payment of utility bills were significant in measuring the inclusive growth initiative of the Central Bank of Nigeria. It therefore recommends among others that the central bank should make policies that will increase the credit

worthiness of the rural dwellers as well as encourage banks to boost the capital base of the rural banks in order to be equipped with the financial muscle to drive financial inclusion in Nigeria<sup>157</sup>.

In a study titled measuring financial inclusion in the EU: financial inclusion score approach. Financial inclusion has become a hotly debated topic as part of a wider social and economic inclusion agenda and an effort towards fuller participation by the vulnerable individuals. While financial inclusion as a policy goal and economic objective is well supported, measuring financial inclusion on a country level remains a challenge. The study proposes a novel approach to measuring financial inclusion in the EU (financial inclusion score) using data envelopment analysis (DEA) and treating financial inclusion as efficiency with which a financial system transforms inputs (key dimensions related to demand, supply and policy) into outputs (use of financial services). Using the DEA method, a financial inclusion index is calculated as a relative measure of ranking of a country's financial system in relation to the best in class, as it is identified by the DEA optimization method. The study shows that there is substantial variation among the member states in terms of financial inclusion score (FIS) although overall the majority of the countries are fairly advanced in their efforts to make the financial system inclusive. The FIS scores allow to classify the states into four categories: leaders, high performers, aspiring performers and laggards, with the leaders serving as the performance benchmarks for others to follow. As with every method, FIS has its limitations. It is sensitive to inputs and outputs, and other versions of the index should be tested to find the most appealing and accurate measure of financial inclusion that captures the phenomenon in the EU context. It also provides a synthetic measure of financial inclusion that shows how the financial system as a whole performs but it does not specify which individuals or groups may be excluded, or to what extent, or why such exclusion may be occurring. Therefore a composite measure should be treated as a general indicator that needs to be supplemented

with more specific review of potential exclusion cases. The findings help to operationalize the measure of financial inclusion and offer a simple composite index that is easy to understand, monitor and implement. The key added value of this research lies in clear definition of financial inclusion and the development of a unique composite index using data envelopment analysis method that assigns weights to inputs and outputs endogenously without prior arbitrary specification of the values of the weights<sup>158</sup>.

A study focused on ICT and financial inclusion in Nigeria. The extant literature shows that the financial system plays significant role in the process of economic growth and development. However, it is doubtful if the financial system can contribute meaningfully to economic growth and development when the lowest segment of the society is excluded. Unfortunately, recent global statistics on financial inclusion indicate that a large chunk of the country's population is financially excluded presently. This study therefore aims at sensitizing policymakers and researchers in Nigeria to the importance of ICT in enhancing financial inclusion in the country. To do this, the study presents an overview of the role of information and communication technology (ICT) in driving financial inclusion in Nigeria; and also exposes the challenges impeding the use of ICT in driving financial inclusion in Nigeria. Lastly, the study makes some policy recommendations on the way forward<sup>159</sup>.

A research analysed several indicators of financial inclusion in Nigeria. The findings reveal that people with at least a secondary education and unemployed people had higher levels of debit card ownership, higher levels of account ownership of any type, and higher levels of account ownership in a financial institution. Borrowings from family or friends decreased during the period. The level of savings and borrowings was higher for adults with at least a secondary education while the level of savings, using a savings club or persons outside the family, decreased among females, poor people and among people with a primary education. Credit card ownership was low among unemployed people while credit card ownership was

much higher among employed people, the richest people and among people with at least a secondary education. Finally, borrowings and savings using family, friends or saving clubs significantly contributed to economic growth than borrowings and savings through financial institutions<sup>160</sup>.

Nigeria is a key regional player in West Africa with approximately 202 million people: one of the largest populations of youth in the world. This is an enormous market for services. However, there is a low level of financial inclusion. A large proportion of the Nigerian population still live in areas where they do not have sufficient access to financial services like banks, and this makes them financially vulnerable. This working paper highlights how Nigerian banks are using technology to enhance financial inclusion in Nigeria. The study aims to contribute to literature on financial inclusion, financial vulnerability and financial technology from the point of view of an emerging economy<sup>161</sup>.

A study analysed the relationship between financial inclusion and investment in Nigeria. Many studies have focused on examining the relationship between financial inclusion and economic growth, however, economic growth cannot be achieved without sustainable investment guaranteed by financial inclusion. This study thus seeks to bridge this gap and fill the lacuna. Annual time series data was obtained from the CBN statistical bulletin and for the period 1981-2015. The study makes use of the autoregressive distributed lag (ARDL) bound co-integration test and error correction model. The outcomes of the study show that not all the three criteria for financial inclusion (availability, accessibility and affordability) guarantee investment in the Nigerian economy. This study recommends that private individuals should have uncomplicated access to credit and fair distribution of commercial banks in the rural setting of the state<sup>162</sup>.

In a study titled quality financial inclusion and financial vulnerability. Despite existing evidence suggesting that financial inclusion enhances consumers' welfare, there has been no attempt to examine the link between financial inclusion and financial vulnerability, measured along multiple dimensions. We computed more comprehensive indices of financial vulnerability and financial inclusion using polychoric principal component analysis based on a nationally representative financial inclusion survey in South Africa. Results from quantile regressions show that only the top 20% of the financially included had lower vulnerability but the effect was weaker among the more vulnerable categories. Also, the decline in financial vulnerability was less pronounced when financial inclusion was narrowly defined by excluding quality indicators. These findings suggest that financial inclusion is benefitting a few consumers in South Africa which points to the need for a bottom-up approach in designing financial products that improve the welfare of the financially included consumers<sup>163</sup>.

A study focused on the drivers of financial inclusion in Nigeria. Financial inclusion has been closely linked to economic growth. This study identifies income, education, age, gender, urbanrural classification and access, as key drivers of financial inclusion and analyses their impact on the likelihood of being banked in Nigeria. The study uses a survey of over 20,000 respondents in 37 states in Nigeria from 2008 to 2016. The results show that the average income and education levels in Nigeria significantly determine the likelihood of having an account with a bank or any other formal financial service provider. Being a woman, a youth and living in a rural area, however, have significant negative effects on financial inclusion. Lastly the lower the average travel time to the nearest branch of a bank, the more likely an individual will be financially included in Nigeria. The findings will inform policy interventions in areas such as financial literacy and poverty alleviation. The interventions can

be targeted to the relatively financially excluded groups as revealed in the study: the youth, the women and the rural dwellers<sup>164</sup>.

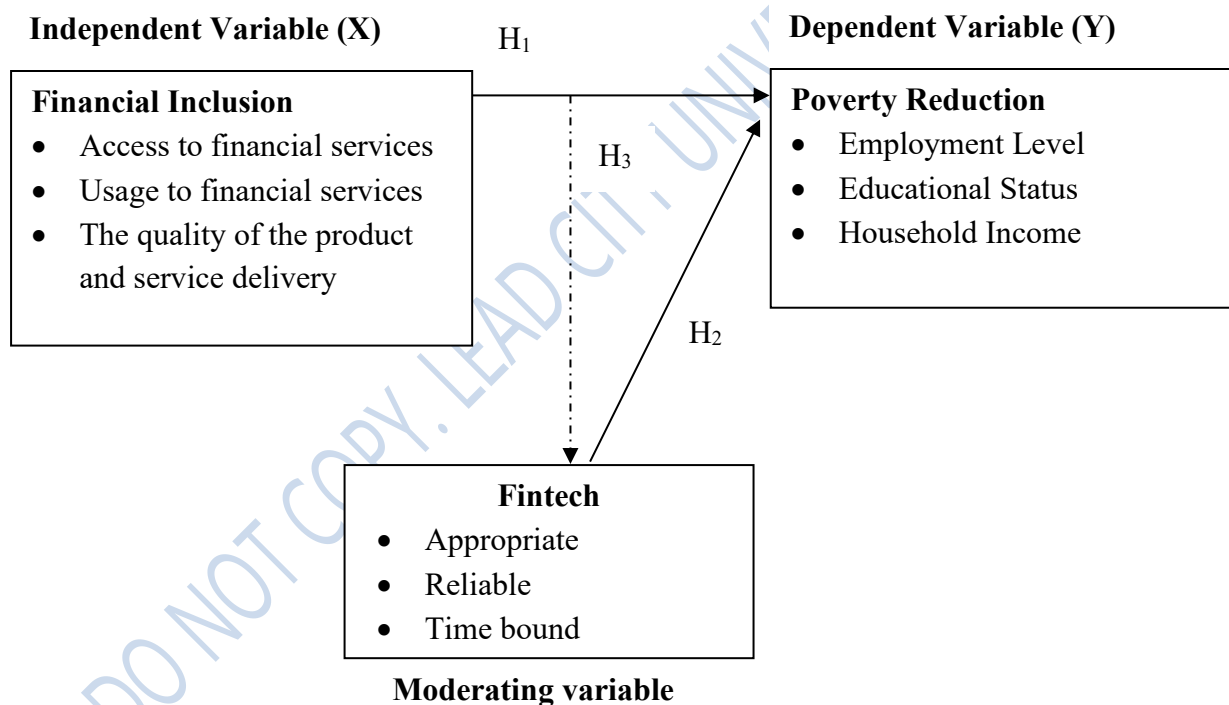
A research on future of financial inclusion was conducted. The author identifies the past and recent changes occurring in the financial inclusion space, and based on these changes, make predictions about what to expect in the future of financial inclusion. The author predicts that, in the future, financial inclusion will witness increased digitalization; increased personalization of formal financial services; the provision of a wide range of formal financial services from a single platform; a shift from account number to mobile number to drive financial inclusion; more women will become financially empowered and financially independent; government will become more directly involved in delivering basic financial services to the poor; and we will witness the emergence of new financial innovations that continuously reduce transaction costs. These future trends will have implications for financial inclusion in Asia, Europe and particularly in Africa where the level of financial inclusion is relatively low<sup>165</sup>.

A study used a non-linear threshold model to shed light on the impact of interest rates on financial inclusion in Nigeria for the period 1981 to 2014. The findings suggest that the threshold level of interest rates in Nigeria is estimated at 16.9 percent. In other words, interest rate hampers financial inclusion if it exceeds 16.9%. Below this threshold, however, the impact of interest rate remains insignificant. Thus, the results of this study support financial inclusion-dampening effects of interest rates in Nigeria. The logical conclusion is that Nigeria, and other developing countries as well, with lending interest rates above 16.9 percent should aim to attain interest rate levels that do not deter financial inclusion by adopting policies that drive down interest rates<sup>166</sup>.

In a study titled Financial Inclusion and Investment in Nigeria: Impact and Causality Analysis. Capital formation (investment) is the bedrock of economic growth and the financial inclusion agenda constitutes one of the government programmes geared towards achieving an allinclusive growth of countries. Hence, this study specifically examines the impact of financial inclusion on investment in Nigeria from 1982Q1 to 2019Q4 using Fully Modified Least Squares (FMOLS), Dynamic Ordinary Least Squares (DOLS), Canonical Cointegrating Regression (CCR) and pairwise Granger causality test techniques. In this study, Gross Capital Formation (GCF) as a proxy for investment, was regressed against three measures of financial inclusion, deposits of rural branches of deposit money banks (DRBDMBS), loans of rural branches of deposit money banks (LRBDMBS), number of branches of deposit money banks in Nigeria (NBDMBS), and inflation and interest rates as control variables. This study found a long-run relationship between financial inclusion and investment in Nigeria as well as a unidirectional causality flow from DRBDMBS to GCF. Similarly, there is unidirectional causality from the inflation rate to GCF. However, bi-directional causalities exist between interest rate and GCF, and also between LRBDMBS and GCF. The regression models indicate that except for interest rate which is negatively and significantly signed with investment; DRBDMBS, LRBDMBS and NBDMBS and inflation rate have positive significant impacts on investment in Nigeria. This study concludes that financial inclusion has a positive significant impact on investment in Nigeria, which implies that the more the affordability, accessibility and availability of financial services in Nigeria, the higher the level of investment in the country. It is recommended that more rural branches be opened by deposit money banks in Nigeria. Banks should also simplify their loan accessing procedures to accommodate the rural and illiterate populace. Deposit mobilisation should also be intensified by banks<sup>167</sup>.

A study reported on the conditions for optimality in financial inclusion. The optimal level of financial inclusion is achieved when basic financial services are provided to members of the population at a price that is affordable and that price is also economically sufficient to encourage providers of financial services to provide such financial services on a continual basis. Any level of financial inclusion that does not meet these conditions is sub-optimal. The consequence of sub-optimal levels of financial inclusion are reported and I show that maintaining a sub-optimal level of financial inclusion – which is common in many countries is incentive-inefficient both for users and suppliers of basic financial services<sup>168</sup>.

## 2.4 Conceptual Framework



Financial inclusion is a key element of social inclusion (the antithesis of social exclusion), roughly meaning the opportunity for people to benefit from, and to contribute to the processes of economic and social advancement.

Accordingly, financial inclusion is the “provision of affordable services” to those who are under-attended by formal agencies of the financial system. These financial services including

savings, remittance facilities loan, payments, and insurance services. Poverty is general scarcity or dearth or the state of one who lacks a certain amount of material possessions or money.

It refers to the deprivation of basic human needs which commonly include health care, shelter, sanitation, water, food, clothing, and education. Poverty may also be understood as experienced as social exclusion, inequitable social relationships, a facet of asymmetrical social status, diminished capacity to participate or to develop significant associates with other people in society.

Financial technology (Fin Tech) is the technology utilized in the back-end infrastructure of well-established financial organization. FinTech now includes various sectors and industries, such as education, retail banking, funding and non-profit, and investment management, using new technology to improve and automate the delivery and use of financial services, from mobile payment Apps to cryptocurrency.

## **2.5 Summary of Gaps in Literature**

In order to boost economic activity levels and ultimately lower poverty, numerous financial reforms had been implemented in Nigeria to encourage banks to offer financial services, including loans, to individuals and small business owners. Only a very small portion of the nation's population is still a part of the financial system, despite all attempts, including the numerous inventive ideas and efforts of the CBN and commercial Banks. 22 Deposit Money Banks with over 6,000 branch networks were part of the Nigerian banking sector as of May 2018. (CBN, 2018). These figures are concentrated in a few states in excess of 40%. Additionally, according to CBN (2014), banks presently have over 15,000 POS terminals and over 19,000 ATMs installed across the nation, however these numbers are heavily concentrated in a select few areas. Despite the country having a big bankable population,

banks have expanded their infrastructure and kept innovating, but these facilities are vastly underutilized. 3,882 clients are typically served at Nigerian Bank locations.

This study seeks to add to the ongoing discussion in pertinent studies using fintech by examining the understudied relationship between financial inclusion and poverty alleviation. Its goal is to examine how financial inclusion can be used to raise people's standards of living. Financial inclusion is a goal that must be pursued; it is not merely a matter of policy choice. There are many practical ways to hasten its spread and increase public acceptance of such policies and tactics. Following this introduction, the remaining section of the study will feature a literature analysis where the author will assess the body of knowledge and points of view on poverty alleviation, Fintech, and financial inclusion. The purpose of the study is to fill in any gaps in the literature that the author finds. The following session will concentrate on the research design, and the ending session will provide the outcome analysis and draw conclusions and recommendations.

Fighting poverty requires pursuing financial inclusive solutions, which are crucial. It makes more opportunities available for them to save money. By investing these monies, one can raise one's standard of life, boost the free flow of capital, increase employment opportunities, and lessen poverty. Financial inclusion enables the underprivileged to invest in both tangible and intangible assets, boosting economic activity in underdeveloped areas. Banks are able to lower transaction costs, facilitate investment, and also provide the funds required for investments in innovative technologies through their financial intermediation function. But since they frequently lack access to formal financial services, the poor in developing countries are unable to take advantage of the ways that financial institutions may influence the economy.

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## **Chapter Three**

### **Methodology**

This chapter describes the various social and scientific methods of carrying out a proper and qualitative research through viewing the research methods and designs, research population, sample size, sampling techniques and procedures, the applicable and adopted sources of data collection, applicable research instrument and testing the validity and reliability of the adopted instrument and finally, the method of data analysis.

#### **3.1 Research Design**

The study used a cross sectional survey research design. The reason for the adoption of cross-sectional survey research design is that it provides opportunity to examine financial inclusion on poverty alleviation the moderating effects of FinTech. The scope of the study covers Semi-Urban Areas of Ibadan Metropolis, Oyo State, Nigeria. Researcher attempting to conduct a survey of any sort should pay ample attention to their sampling, which is derived through careful selection of the sampling design and procedures. In addition, since the data that will be used in this study will be collected through a structured questionnaire to be administered to some selected respondents in the study area, best hand information will be made available<sup>1</sup>.

#### **3.2 Population of the Study**

Population of this study is the selected rural settlement in Semi-Urban Areas of Ibadan Metropolis, Oyo State it will be limited to all the Dwellers in the selected environ. Ibadan is the capital and largest city of Oyo State, Nigeria. It is Nigeria's third-largest city, after Lagos and Kano, with a total population of 3,649,000 people as at 2021, and more than 6 million people residing inside its metropolitan region. It is also the country's commercial capital. It is the country's largest city by geographical area. Ibadan was the largest and most populated city

in Nigeria at the time of its independence in 1960, and the second most populous in Africa after Cairo. A total population comprising of 4,440,050 with 1,110,025 in Semi-Urban Areas of Ibadan Metropolis, Oyo State poor households located in three senatorial districts was selected for the study<sup>2</sup>. To arrive at a sample for this study, it is recommended the use of 384 as a maximum sample if the population is 1,000,000 and above. A total sample of 384 FinTech customers from Semi-Urban Areas of Ibadan Metropolis, Oyo State.

## **Local Government Areas**

### **Ibadan Urban — LGA Chairman**

1. Ibadan North — Adebayo Adegoke
2. Ibadan North-East — Lekan Afuye
3. Ibadan North-West — Mojeed Bosun Ajuwon
4. Ibadan South-East — Abimbola Omiyale
5. Ibadan South-West — Adeleke Taoreed Bolaji

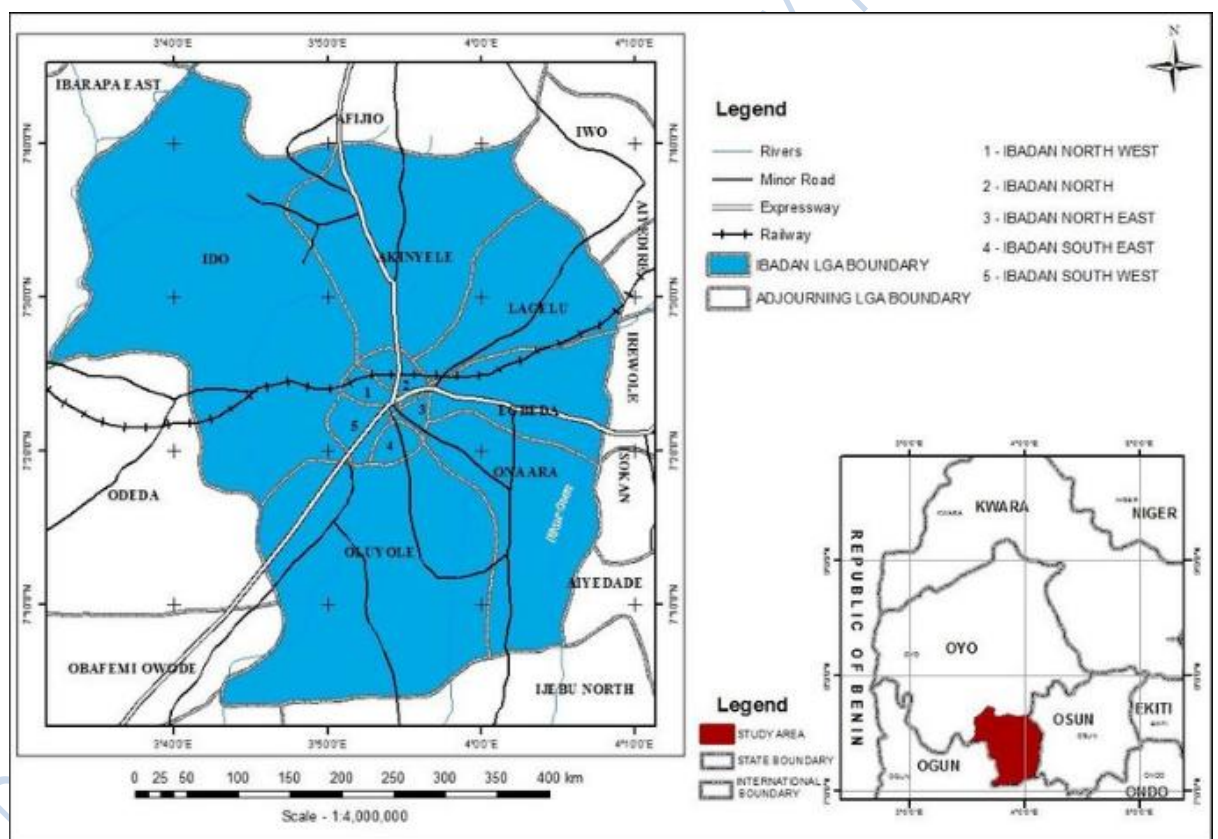
### **Ibadan Semi-Urban — Chairman**

1. Akinyele — Mukaila Abiola Ambali
2. Egbeda — Akeem Akintunde
3. Ido — Wahab Oladejo
4. Lagelu — Oyesanmi Toriola
5. Ona Ara — Ogundele Biliaminu
6. Oluyole — Chairman: Ayodeji Abass Aleshinloye

The late Senator Isiaka Abiola Ajimobi, the former Executive Governor of Oyo State, established certain Local Council Development Districts (LCDAs) out of some of the existing local government areas in the state. It was decided to form the LCDAs listed below from the Ibadan Urban Local Government Areas. It was decided to split the Ibadan North Local

Government Area into two parts: Aare Latosa LCDA and Irepodun LCDA. Ibadan East Local Government Area was established as a result of the dissolution of Ibadan North East Local Government Area. Oke'Badan North Local Government Area was established out of the Ibadan North West Local Government Area. Ibadan South LCDA was established as a result of the dissolution of Ibadan South East LCDA. Ibadan West Local Government Area was established as a result of the dissolution of Ibadan South West Local Government Area.

The following Local Council Development Areas (LCDAs) were established from the Ibadan Semi-urban Local Government Areas. Akinyele South LCDA and Akinyele



**Figure 3.1:** East LCDA were established as sub-districts of the Akinyele Local Government Area.

Source: Office of the Surveyor General of the Federation, 2014

## **Local Government Areas**

### **Ibadan Urban - HQ**

1. Ibadan North - Agodi
2. Ibadan North-East - Iwo Road
3. Ibadan North-West - Dugbe/Onireke
4. Ibadan South-East - Mapo Hall
5. Ibadan South-West - Oluyole Estate

### **Ibadan Semi-Urban — HQ**

1. Akinyele - Moniya
2. Egbeda - Egbeda
3. Ido - Ido
4. Lagelu - Iyana Offa
5. OnaAra - Akanran
6. Oluyole - Idi Ayunre

The following LCDAs were formed from the Ibadan Urban Local Government Areas. Aare Latosa LCDA and Irepodun LCDA were formed from the Ibadan North Local Government Area. Ibadan East LCDA was formed from the Ibadan North East Local Government Area. Out of Ibadan North West Local Government area, Oke'Badan North LCDA was created. Out of Ibadan South East Local Government area, Ibadan South LCDA was created. Out of Ibadan South West Local Government area, Ibadan West LCDA was created.

From the Ibadan Semi-urban Local Government areas, the following LCDAs were created. Out of Akinyele Local Government area, Akinyele South LCDA and Akinyele East LCDA were created.

## **Akinyele**

Akinyele local government area is subdivided into 12 wards: Ajibade/Alabata/ Elekuru, Akinyele/Isabiyi/ Irepodun, Arulogun/ Eniosa/ Aroro, Ikereku, Iwokoto/ Talonta/Idi-Oro,Ojoo/Ajibode/Laniba, Olanla/Oboda /Labode, Olode/Amosun/ Onidundu, Ojo-Emo/Moniya, Ijaye/Ojedeji, Olorisa-Oko/ Okegbemi/Mele, and Iroko.

## **Egbeda**

Egbeda local government area is subdivided into 11 wards: Erunmu, Ayede/Alugbo/ Koloko, OwoBaale/Kasumu, Olodan/Ajiwogbo, Olodo/Kumapayi I, Olodo II, Olodo III, Osegere/Awaye, Egbeda, Olode/Alakia, and Olubadan Estate.

## **Ido**

Apata, Apete, Akufo, Bakatari, Ijokodo, Ido, Omi-Adio, are among the main cities within the local government area, as are 612 villages such as Alagbaa, Apooyin, Dada, Erinwusi, Iku-senla, Oderemi, Odetola, Ogunweide, Olowofela and Tade.

## **Lagelu**

Lagelu local government area is subdivided into 14 wards: Ajara/Opeodu, Apatere/ Kuffi/ Ogunbode/ Ogo, ArulogunEhin/ Kelebe, Ejioku/Igbon/Ariku, Lagelu Market/ Kajola/Gbena, Lagun, Lalupon I, Lalupon II, Lalupon III, Ofa-Igbo, Ogunjana/ Olowode/Ogburo, Ogunremi/Ogunsina, Oyedeji/Olode/Kutayi, Sagbe/Pabiekun.

## **OnaAra**

Ona-Ara Local Government Area is divided into 11 wards. The wards, in order of number, are: Akaran, Araro, Badeku, Gbada, Idi-Ose, Idi-Osan, Olunloyo, Ajia/Odoku, Olorunsogo, Gbedun and Ore-Meji. The five urban settlements among these wards are Idi-Ose, Idi-Osan,

Olunloyo, Olorunsogo and Ore-Meji. It has about 200 communities, all of which are rural, except one village-cluster (Olorunsogo/Olunloyo) in the outskirts of Ibadan.

### **Oluyole**

Oluyole is a Local Government Area of Oyo state headquartered in Idi-Ayunre, consisting the wards & villages of Ekefa, Seko, Ayegun, Idi-Iroko, Ikereku, Idi-Osan, Egbeda-Atuba, Muslim Ogbere, Odo-Ona, Nla, Okanhinde, Latunde, Olomi/Olunde

### **3.3 Sample Size and Sampling Technique**

Simple random sampling technique was adopted in selecting Semi-Urban Areas of Ibadan Metropolis selecting 100 respondent randomly from Akinyele, Egbeda, Ido, Lagelu, OnaAra, and Oluyole local government that would be adopted administer questionnaires in Semi-Urban Areas of Ibadan Metropolis. The researcher administered a total of One thousand (1000) copies of questionnaires among the Semi-Urban Areas of Ibadan Metropolis. About Nine hundred and fifty (950) were considered to be valid since they were duly filled up the Semi-Urban Areas of Ibadan Metropolis. Hence 950 questionnaires were processed for further research findings.

#### **Justification of Sample Size**

For this study, 41% of Semi-Urban Areas of Ibadan Metropolis were selected investigating if financial inclusion is a panacea for poverty reduction in Oyo state. Investigating how many adults should be surveyed to estimate the true proportion of adults who have been financial included or excluded in Oyo State, with a 95% confidence interval 6% wide, Cochran's Sample Size Formula were used for this study.

In order to compute an optimum sample size, a researcher must first choose what level of precision and confidence level they desire, as well as the expected proportion of the attribute present in the population. Cochran's formula is seen to be particularly useful in circumstances

involving large populations of people. Because a sample of any given size provides more information about a smaller population than a larger population, there is a 'correction' that may be applied to Cochran's formula in order to minimize the number supplied by the formula if the entire population is relatively small.

**The Cochran formula is:**

$$n_0 = \frac{Z^2 pq}{e^2}$$

**Where:**

- p is the (estimated) proportion of the population which has the attribute in question,
- q is 1 – p.
- e is the desired level of precision (i.e. the margin of error),

The z-value is found in a Z table.

Finding a Sample Size Given a Confidence Interval and Width (unknown population standard deviation)

Finding a sample size for a given confidence interval and width (e.g. 95% interval, 6% wide) for an *unknown population standard deviation*.

Step 1: *Using the data given in, figure out the following variables:*

- $Z_{\frac{\alpha}{2}}$ : Divide the confidence interval by 2, and look that area up in the z-table:  
 $.95 / 2 = 0.475$

The closest z-score for 0.475 is 1.96.

- E (margin of error): Divide the given width by 2.  $6\% / 2 = 0.06 / 2 = 0.03$
- $\hat{P}$ : use the given percentage.  $41\% = 0.41$ . If you aren't given that, use 50%.
- $\hat{q}$ : subtract  $\hat{P}$  from 1.  $1 - 0.41 = 0.59$

Step 2: Multiply  $\hat{P}$  by  $\hat{q}$ . Set this number aside for a moment.  $0.41 \times 0.59 = 0.2419$

Step 3: Divide  $Z_{\alpha/2}$  by E.  $1.96 / .03 = 65.33333333$

Step 4: Square Step 3:  $65.33333333 \times 65.33333333 = 4268.44444$

Step 5: Multiply Step 2 by Step 4:  $0.2419 \times 4268.44444 = 1,032.53671 = 1,033$  people to survey.

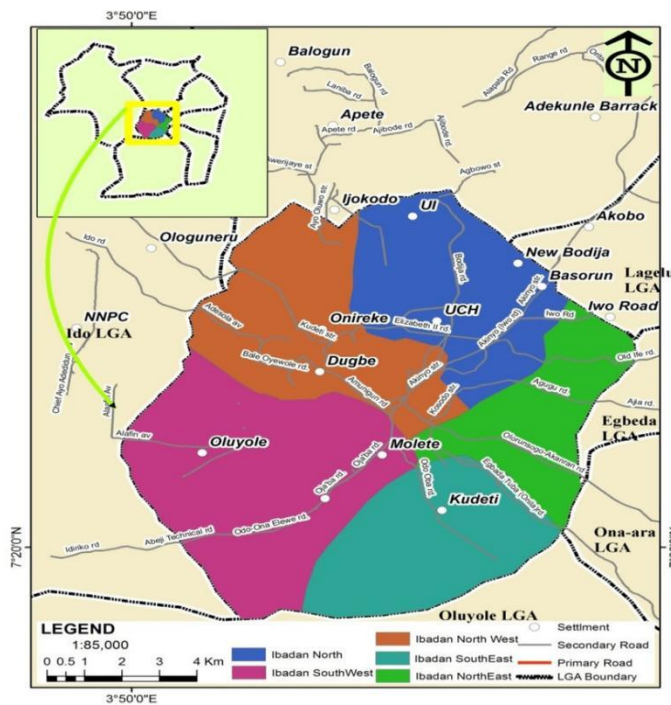


Figure3.2: Five Urban Local Government Areas in the context of the Ibadan Metropolis

Source: Department of Geography, University of Ibadan, 2015

### Data Sources

Data collected for the purpose of this research work were gathered from two main sources, which are the primary and secondary sources.

The primary data make use of questionnaire to collect information from the respondents, while the secondary data shall make use of processed data which may have been used for other research purposes such as information gathered from textbooks, journals, internet and

from various sources of learning. Thus, the research instrument was valid as a result of thoroughly scrutinizing by four different scholars in the area of management studies.

### **3.4 Description of Research Instrument**

The research made use of research instrument to collect the needed data for the study.

The research instrument used for collecting primary data was Questionnaire, which is the most widely used data collection methods in evaluation research. A five-point Likert Scale was used to measure the three variables namely financial inclusion, Fintech, and poverty reduction. The scales were ranging from “1” strongly disagreed to “5” strongly agreed. Financial inclusion was measured by adapting indicators. The Questionnaires used for the final data collection were close ended questionnaires. Questionnaires helped gather information on attitudes, opinions, behaviors, facts, and other information.

Self-administered questionnaire was adopted for collecting data from the respondents which the researcher could not reach. The questionnaire was designed to obtain information needed for analyzing and interpreting the result in order to aid answering the research questions. The questionnaire was designed using the close ended questionnaire and it will comprise of two parts. The respondents’ background and the research related questions. The respondents are expected to choose from the list of options provided for each question asked.

### **3.5 Validity of Research Instrument**

The preparation of the research instrument, administration of the research instrument, collation and analysis was supervised and scrutinized by the project supervisor for face validity and content validity of the research instrument.

The research instrument was subjected to proper validation with the assistance of the supervisor in order to ensure the instrument subscales measure what they are expected to measure, completed and returned questionnaire were sorted and collated. These were then

inputted on the computer system for analysis. Data were analyzed using descriptive and inferential tools, frequency count, percentage were used to analyse the data.

### **3.6 Reliability of Research Instrument**

Reliability refers to random error in measurement. Reliability indicates the accuracy or precision of the measuring instrument. The pilot test attempted to answer the question, does the questionnaire consistently measure whatever it measures?

Reliability is a way of assessing the quality of the measurement procedure used to collect data in a dissertation. In order for the results from a study to be considered valid, the measurement procedure must first be reliable. Indeed, the reliability of the research instrument will be determined using the Cronbach's alpha reliability tool of the Statistical Packages for Social Science (SPSS) v.20.

### **3.7 Administration of Research Instrument and Method of data Collection**

Copies of the questionnaire were administered to the sample drawn from the population. The researcher administered the research instruments with the help of well-trained research assistants to ensure the questionnaires are distributed accurately and for prompt retrieval.

### **3.8 Method of Data Analysis**

In analyzing data, the descriptive statistics consisting of simple percentages was adopted to analyze the bio-data of the respondents while PearsonCorrelation technique was adopted to test the hypotheses formulated.

## Endnotes

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## Chapter Four

### Data Analysis

#### 4.1 Presentation of Data Analysis

The research used all 10 Microfinance banks in the Semi-Urban Areas of Ibadan Metropolis, Oyo State from the sampling frame from each FinTech, 38 customers were randomly selected to participate in the study from the 6 microfinance institution, while 39 customers were randomly selected to participate in the study from the 4 microfinance institution. Therefore, 384 questionnaires were randomly distributed to the beneficiaries, but 318 responded back. Out of 318 respondents, 25 questionnaires were rejected because of either incomplete responses or the problem of outliers, so the final sample size came to 293 respondents. The effective response rate came out to be 76.30. Table 1 below shows the summary of questionnaire response.

**Table 4.1: Response Rate of the Questionnaires**

S/N	Response	Frequency	%
1	No. of distributed questionnaires	384	100
2	Completed and returned questionnaires	318	82.8
3	Unusable questionnaires:	25	6.51
	Incompleteness and non-eligibility	9	2.34
	Univariate and multivariate outliers	16	4.17
4	Returned and usable questionnaires	293	76.30

Source: Field Survey, 2022

### Respondent profile

Respondents in this study consist of financial inclusion customers of FinTech. All respondent represented financial inclusion of Oyo State.

**Table 4.2: Gender of the Respondents**

Option	Frequency	Percentage (%)
Male	161	55
Female	132	45
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

The above Table indicates the gender percentage of the respondents in which 55% of the respondents were male and 45% were female.

**Table 4.3: Age of the Respondents**

Option	Frequency	Percentage (%)
20-29	19	7
30-39	217	74
40-49	54	18
50-59	3	1
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

The different of respondents shows that 7%of the respondents were between age of 20-29, 74%of the respondents were between age of 30-39, 18%of the respondents were between age 40-49 and only 1% of the respondents were between age of 50-59.

**Table 4.4: Income Level of the Respondents**

<b>Option</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Below 18,000	173	59
18,000-20,000	62	21
20,001-30,000	42	14
Above 30,000	16	6
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

The income level of the respondents shows that 59% are below 18,000 naira, 21% of the respondents are between 18,000 naira - 20, 000 naira, 14% of the respondents are between 20,000 naira- 30,000 naira and only 6% of the respondents are above 30,000 naira.

**Table 4.5: Employment Status of the Respondents**

<b>Option</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Unemployed	52	18
Farming	184	63
Casual Employer	8	3
Civil Servant	23	8
Retired	26	9
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Employment Status of the Respondents indicate that 18% of the respondents were unemployed, 63% were farming, 3% were casual employer, 8% of the respondents were civil servant and 9% of the respondents were retired.

**Table 4.6: Highest Educational Qualification of the Respondents**

<b>Option</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Primary	97	33
SSCE	164	56
ND/NCE	17	6
HND/B.SC	10	4
Post Graduate	5	2
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table 4.6 above shows the highest educational qualification of the respondents in which 33% of the respondents were primary school holders, 56% were SSCE holders, 6% of the respondents were ND/NCE holders, 10% were HND/B.Sc. holders while 2% of the respondents were post graduate holders.

**Table 4.7: Residence of the Respondents**

<b>Option</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Semi-Urban	273	93
Urban	20	7
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

93% of the respondents show that they reside in semi-urban area while 7% of the respondents reside in urban areas.

## 4.2 Presentation of Research Questions

This indicates the questionnaire according to the research question formulated in chapter one.

**Research Question 1:** What is the level of poverty in semi-urban areas of Ibadan metropolis?

**Table 4.8: Residence Proofs and Possession of Identity by Households**

Option	No of responses	Percentages (%)
NIMC Card	126	43
Voter's Card	42	14
Driving License	20	7
BVN	100	34
International passport	5	2
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Possession of the necessary documentation for the opening of a bank account One of the criteria for opening bank accounts and for receiving government subsidies through bank accounts is the presence of a valid identification card or passport. There are a variety of papers that may be used to verify one's identification. The NIMC Card and BVN is the most legitimate form of identification evidence.

**Table 4.9: How would you Rate the Level of Poverty in Semi-Urban Areas?**

<b>Option</b>	<b>No of Responses</b>	<b>Percentages (%)</b>
Low	25	9
Very low	43	15
High	100	34
Very high	100	34
Undecided	25	9
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table 4.9 shows the level of poverty in semi-urban areas in which 9% of the respondents says is low and undecided, 15% of the respondent accepted that it is very low, 34% of the respondents says is high and very high.

**Research Question 2:** How does access to fintech financial services products reduces poverty level in semi-urban areas of Ibadan metropolis?

**Table 4.10: Preferred Timings for using Fintech Products**

<b>Option</b>	<b>No of responses</b>	<b>Percentages (%)</b>
8am -11am	200	68
11am-2pm	25	9
2pm-4pm	68	24
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table above indicates preferred timing for banking hours in which 68% shows that is between 8am – 11am, 9% of the respondents said is between 11am – 2pm and 24% said between 2pm – 4pm..

**Table 4.11: How often do you use Fintech Products?**

<b>Option</b>	<b>No of responses</b>	<b>Percentage (%)</b>
Every day	42	14
Every week	126	43
Every Month	100	34
Once in six month	25	9
I don't use	-	-
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

The above Table show how often the community use fintech products in which 14% said they use fintech products every day, 43% of the respondents said is every week, 34% indicate every month, and only 9% said once in six month.

**Table 4.12: What do you think will Reduce Poverty in your Community?**

<b>Option</b>	<b>No of responses</b>	<b>Percentage (%)</b>
Education	100	34
Distributing Motorcycles to the youths	40	14
Giving out soft loans	103	35
Provision of social amenities to the rural areas.	50	17
Undecided	-	-
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table 4.12 indicate that 34% of the respondents strongly agree that Education can reduce poverty in community, 14% agree that distributing of motorcycles to the youths can also reduce the level of poverty in the community, 35% of the respondents strongly said that

giving out soft loans, and 17% of the respondents said by provision of social amenities to the rural areas can reduce the level of poverty in the community.

**Table 4.13: How has Available Fintech Contributed to Poverty Alleviation in your Area?**

<b>Option</b>	<b>No of responses</b>	<b>Percentages (%)</b>
Financial contribution	100	34
Provision of highbred seedlings	68	23
Provision of social amenities	25	9
Enlightenment programs	100	34
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table 4.13 indicate availability of financial Technology contributed to poverty alleviation in your area that 34% of the respondents said through financial contribution 23% of the respondents said through provision of highbred seedlings, 9% of the respondents by provision of social amenities and 34% of the respondents said through enlightenment of different programs.

**Research Question 3:** To what extent does usage of fintech financial services products used to reduce poverty level in semi-urban areas of Ibadan metropolis?

**Table 4.14: Major reasons for Availing Fintech**

<b>Option</b>	<b>No of responses</b>	<b>Percentages (%)</b>
Business	201	68
Consumption	24	8
Social	-	-
To offset a loan	25	9
Because of the opportunity	43	15
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Above Table which indicate the major reason for availing fintech in which 68% of the respondents believe in business, 8% of the respondents said is for consumption, 9% of the respondents strongly said to offset the loans and 15% of the respondents indicate for opportunities.

**Table 4.15: Preference for Saving**

<b>Option</b>	<b>No of responses</b>	<b>Percentage (%)</b>
Co-operative Organizations	126	43
Bank	100	34
Home	62	21
Other Savings	5	2
None	-	-
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

The above Table shows peoples preferences to carry out savings and indicates access to financial services in terms of closeness to their base. Here, 43% of the respondents believe and agree and will prefer to use the trusted cooperatives organizations, 34% agree and will prefer to use bank, 21% of the respondents only prefer and keep their money at home “under the mattress”, whilst 2% prefer to save using other methods that do not fall within the categories described in the question. None of the respondents disagreed with the fact that savings was not a good thing, as none of the respondents decline saving at all, and this shows that access to savings will help to drive financial inclusion.

**Table 4.16: Table showing what the Fintech can Offer**

<b>Options</b>	<b>Number</b>	<b>Percentage (%)</b>
Financial reward	100	34
Fringe benefits and package	70	24
Job security	48	16
Social satisfaction	25	9
Opportunity advancement	20	7
All the options listed a-bove	30	10
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

From the result in Table 4.16 above, it shows that 34% of the respondent says that financial technology offers financial reward, 24% says fringe benefit and package, 16% says job security, 13% says social satisfaction, 12% says opportunity advancement while 5% of the respondents says all of the listed above.

**Table 4.17: Lending behaviour of the people with using Fintech**

<b>Option</b>	<b>No of Responses</b>	<b>Percentages (%)</b>
From Co-operative Organization	100	34
Friends and Families	25	9
Do not have any debt	25	9
From Bank	100	34
Money lenders	43	15
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

It indicates that 34% of the respondents indicate that they lend from co-operative organization and from bank, 9% of the respondents proof that is from families and friends and they do not have any debt while 15% said from money lenders.

**Research Question 4:** How quality of fintech products and service delivery can influences poverty reduction in semi-urban areas of Ibadan metropolis?

**Table 4.18: how would you Classify Poverty Alleviation Programme in your Area through Financial Technology?**

<b>Option</b>	<b>No of Responses</b>	<b>Percentages (%)</b>
Sectoral	100	34
Sub-Sectoral	68	23
Reliable Commodity	65	22
rural development	60	20
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

Table 4.18 indicate that 34% of the respondents picked Sectoral can be classified as poverty alleviation programmes in their area through financial technology, 23% said Sub-Sectoral, 22% of the respondents strongly said is reliable commodity, only 20% of the respondents said is rural development.

**Table 4.19: What are the Factors Affecting Effectiveness of Financial Inclusion**

<b>Option</b>	<b>No of Responses</b>	<b>Percentages (%)</b>
Unfriendly business Environment	34	12
Lack of sustainable growth	25	8
Insufficient infrastructure	20	7
Bad geographical location	20	7
Reducing physical access	26	9
Unsure of financial institution's staff	20	7
System Structure	30	10
Complex financial products	25	8
Information and awareness	20	7
No products and procedures knowledge	15	5
Low earnings (income)	15	5
Poor financial discipline;	30	10
Poor business practices	13	4
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

To determine how financial inclusion access can be improved among Semi-urban areas of Ibadan Metropolis there is need to understand how respondent classify poverty alleviation programme, understand what the respondent thinks will reduce poverty in their community,

their expectations from the banking facilities can offer and the level at which the individual perceive how facilities reduce poverty in your community must be considered.

**Table 4.20: Provision of Adequate Information on Respondent Account Ownership through Fintech**

Option	Number	Percentage (%)
Yes	156	43
No	100	34
Have but not in usage	37	13
<b>Total</b>	<b>293</b>	<b>100</b>

Source: Field Survey, 2022

In the Table above, it shows that respondents that of the availability of bank account which were 156 (53%), those that do not have bank account were 100 (34%), and those that have and not in use are 37 (13%)

#### 4.3 Test of Hypotheses

The data were analyzed in two stages using a two-stage analytical process. The structural model was then evaluated once the measurement model had been evaluated. In particular, Smart PLS 3.0 was utilized for the study<sup>1</sup>. To evaluate the path significance, bootstrapping was employed with 293 cases and 500 re-samples.

### Model 4.1: Assessment of the measurement model

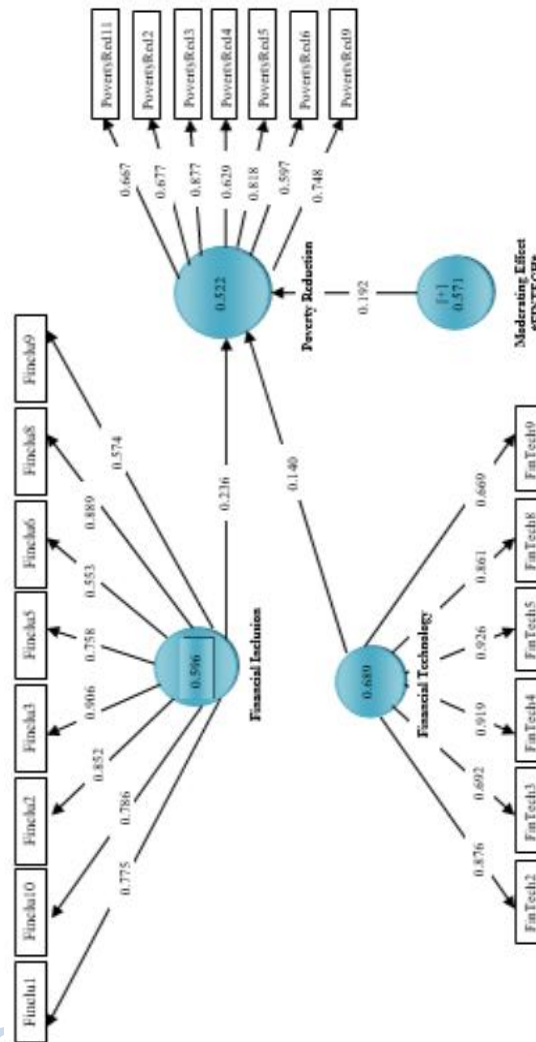


Figure 4.1: Measurement Model

Source: Researchers' computation, 2022

This study investigates the validity and dependability of our conceptions (see fig. 1). If a collection of indicators measures a single shared factor, convergent validity is present. Using the provided methods, composite reliability and average extracted variance were calculated<sup>2</sup>. All factors have Cronbach's alpha values that are higher than 0.842. Individual item loading ranged from 0.553 to 0.926, Average Variance Extracted (AVE) is at least 0.522, and composite reliability (CR) for each construct is at least 0.883.

The link between the values of AVEs and the predicted shared variances among constructs was also compared to assess the discriminant validity (own loading are greater than cross-loadings)<sup>3</sup>. As shown in Table 4, no square of correlation between two constructs was more than the AVE value, supporting the discriminant validity. A further assurance of discriminant validity is provided by the fact that the square root of each construct's AVE is greater than its highest correlation with any other construct<sup>4</sup>. Therefore, the measurement model was considered acceptable with the proof of discriminant validity, convergent validity, and adequate reliability.

Tables 3 and 4 provide all these values and suggest sufficient convergent validity and reliability.

**Table 4.21: Convergent Validity and Reliability**

<b>Construct</b>	<b>Construct Standardized loading</b>	<b>Cronbach's Alpha</b>	<b>Composite reliability</b>
Financial Inclusion		0.897	0.920
Finclu1	0.775		
Finclu10	0.786		
Finclu2	0.852		
Finclu3	0.906		
Finclu5	0.758		
Finclu6	0.553		
Finclu8	0.889		
Finclu9	0.574		
Financial Technology [FinTech]		0.906	0.929
FinTech2	0.876		

FinTech3	0.692		
FinTech4	0.919		
FinTech5	0.926		
FinTech8	0.861		
FinTech9	0.669		
Poverty Reduction		0.843	0.882
PovertyRed11	0.667		
PovertyRed2	0.677		
PovertyRed3	0.877		
PovertyRed4	0.629		
PovertyRed5	0.818		
PovertyRed6	0.597		
PovertyRed9	0.748		

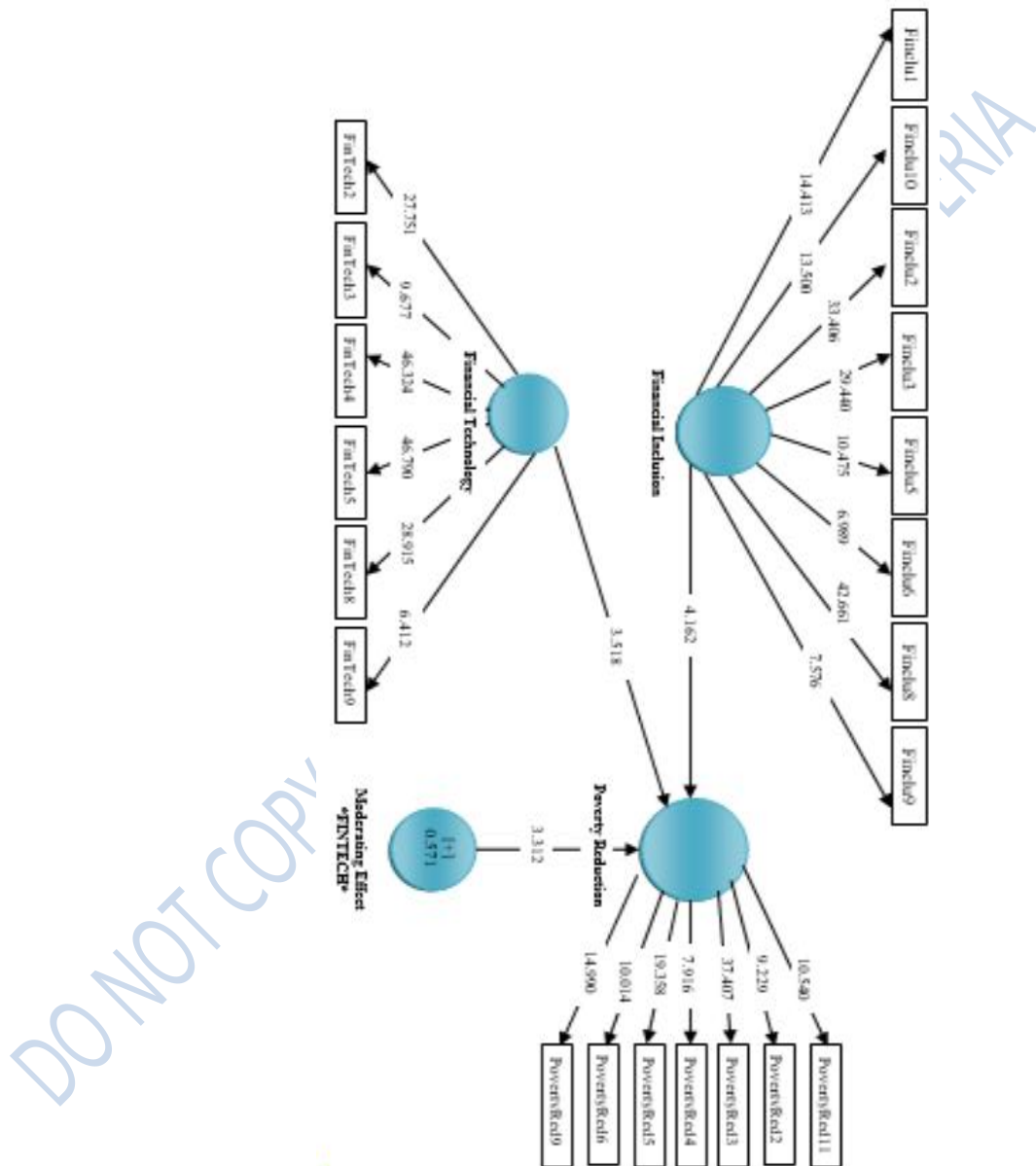
Source: Field Survey, 2022

**Table 4.22: Discriminant Validity Test**

	Mean	Std. Dev	Financial Inclusion	Financial Technology	Poverty Reduction
Financial Inclusion	4.1246	0.4604	0.772		
Financial Technology	3.9859	0.4945	0.215	0.830	
Poverty Reduction	3.8120	0.4866	0.313	0.276	0.723

**Note:** Average variances are recovered from the diagonal entries (in bold); correlations are extracted from the entries below the diagonal, and squared correlations are extracted from the elements above the diagonal.

**Model 4.2: Assessment of the Structural Model**



**Figure 4.2: Structural Model**

**Source:** Researchers' computation, 2022

In order to assess the structural model (i.e Fig 2), the path coefficients, including an assessment of their significance, the coefficient of determination R<sup>2</sup>, and the Stone-Geisser Q<sup>2</sup> were examined<sup>5</sup>. Results show that financial inclusion is positively related to poverty reduction ( $\beta = 0.236, p < 0.000$ ), supporting H1. Financial inclusion has a positive relationship with poverty reduction ( $\beta = 0.140, p < 0.000$ ), supporting H2. Overall satisfaction of the model is revealed in the coefficient of determination R<sup>2</sup> of the endogenous latent variables, a common indicator in multiple regression analysis. The result of the model shows an R<sup>2</sup> of 0.169 for poverty reduction. Blindfolding procedure (omission distance = 7) to evaluate Stone-Geisser criterion revealed Q<sup>2</sup> (0.078) a value greater than 0 for poverty reduction, thus providing support for the model's predictive relevance<sup>6</sup>.

**Table 4.23: Path Coefficients**

Hypothesis	$\beta$	Std Dev	T-Value	P Values
Financial Inclusion → Poverty Reduction	0.236	0.057	4.162	0.000
FinTech → Poverty Reduction	0.140	0.040	3.518	0.000
Moderating Effect FINTECH → Poverty Reduction	0.192	0.058	3.312	0.00

Source: Field Survey, 2022

PLS product indicator approach was applied to detect the moderating effect of FinTech on the relationship between financial inclusion and poverty reduction. To test the possibility of such effect, mean-centered indicators of the predictor (financial inclusion) and the moderator (FinTech) were multiplied to create an interaction construct (financial inclusion × FinTech) to predict poverty reduction<sup>7</sup>. Following the guidelines that a bootstrap resembling procedure

was performed to assess whether the interaction effect is significant. The results of 500 re-samples indicated that path coefficient of 0.192 for the interaction construct is significant at  $p < 0.000$  (t-value = 3.312). As suggested that the moderating effect was further assessed by comparing the proportion of variance explained (as expressed by the coefficient of determination  $R^2$ ) of the main effects model with the  $R^2$  of the interaction model 0.169<sup>8</sup>.

The results showed that the size of the moderating effect is small ( $f^2 = 0.040$ ). Consequently, it is confirmed that microfinance moderates the relationship between financial inclusion and poverty reduction, thus supporting H3. Fig. 3 illustrates the ordinal relationship between financial inclusion and FinTech in the prediction of poverty reduction. The graph clearly demonstrates that low levels of financial inclusion have a weaker positive effect on poverty reduction compared to the higher level of financial inclusion characterized by the area with high Financial Technology (FinTech).

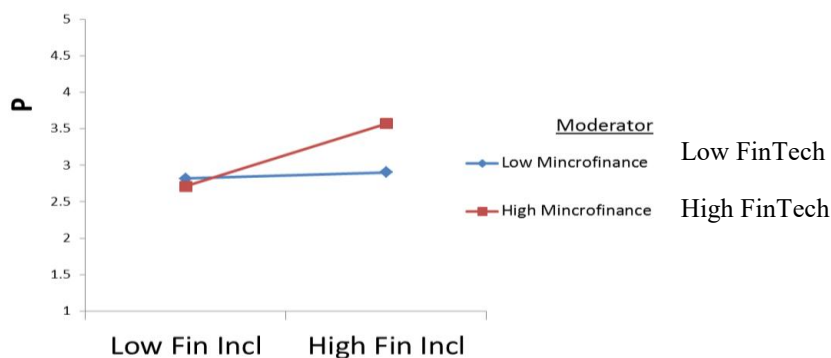


Figure 4.3: The plot of the interaction between financial inclusion and financial technology in prediction poverty reduction

Source: Researchers' computation, 2022

### 4.3 Discussion of Findings

The response rate to the questionnaire, that was used in the study is good at 76.3%. considering that the total sample size was made up of people who had a microfinance bank account that is driven by fintech products. Also, the divide of respondents' profile at 55% male and 45% female, gives a good balance of gender response. The age profile (30-39) of the majority of respondents at 74%, may be attributable to the 'japa' phenomenon. The urban flight of younger people away from rural, and subsistence living to a better life and poverty escape.

With respect to income, majority of respondents at 80%, earn a lot less than ₦20,000 and will be categorized as poverty stricken. The main source of income for majority of respondents, is employment in farming and subsistent, as opposed to mechanized farming. Finally, majority of respondents had basic primary and at best secondary school level of education.

In discussing the research questions, there is a consideration of the particular questions on the questionnaire that brought out findings below

In research question 1, that looked at the level of poverty (by so doing financial exclusion in semi-urban areas of Ibadan metropolis SUA0IM), two questions were considered. The proof of identification that respondents possessed and what they perceived as the rate of poverty. The respondents in their majority had a Banking Verification Number (BVN) or National Identification Management Card (NIMC) at 34% and 43% respectively. This aligns with the strata of respondents being aware of the need to have a proof of identification, as they were selected as having access to financial services. The initial drive for identification was for BVN, and subsequently NIMC, by the service provider as directed by the regulator (CBN). The level of awareness, therefore validates the second question that rated the level of poverty at very high at 68%.

Research question 2 looked at then deepen the discussion, knowing that poverty is deemed very high, by looking at the impact of fintech products and services on the reduction of poverty in SUAIOIM. This question related to response from the questionnaire that considered, time of day that services were used, how often these services were used, what respondents considered will be incentives to use the services and what contribution respondents felts will drive access to these financial products and services.

There is still a big dependency with respect to access of services for respondents to want to physically go into the location of the microfinance banks. We see this in the time of day (between 8 and 11am) that people mostly performed. This needs to change with more awareness and trust of the service provider. There are also the fundamental challenges of living in rural areas. These include access to electricity, affordability of internet services and ability to understand how to use the fintech products. These have impacted the growth, as well as will change the belief in going physically into banking hall. This will better and reduce poverty.

With respect to the use of products, majority of users, even though they have microfinance bank accounts that leverage fintech products and services, do not use these regularly. A good number use the account only once in a month. The underlying challenge here is that poverty level in the country is high generally. If we focus in on SUAIOIM, the poverty level will be greater. The average person does not save, and in fact has spent all of his income before it is earned. Therefore, bank accounts are used as rarely as possible (monthly or even less frequently) because people do not have a need, they do not want to travel to the service provider a lot of times (cost of transport). The proper use of fintech services, including e-wallets will help to change this practice and make usage more reachable.

The need for education as an incentive for access to fintech products & services slows the relationship between increased education and the reduction in poverty. Therefore, putting more focus on educating fintech users will help to further expand and grow use, leading to poverty reduction as more people are on-boarded and financially included. There is also a big belief that the diving of soft loans will drive access to financial products & services. There needs to be a balance between the disbursement of loans and the risk appetite of service providers. Over the years, fintech service providers have use as many touch-points as possible to profile loan requests. There is a need to balance the need for smaller (nano) loans and the ability to pay back. There is however no doubt that striking that balance correctly, in the type of loan products will help expand access and grow financial inclusion and reduce poverty.

Respondents also said that enlightenment and the financial contribution by fintech service providers will drive access to services. This is absolutely an excellent point. There is an intentional drive by the regulator (CBN) to create more awareness by working with various initiatives. A case in point is the Shared Agent Network Expansion Facilities (SANEF) initiative. One of SANEF's aims is to drive financial literacy & campaign awareness, including community engagements. The expansion of such initiatives by service providers will further deepen enlightenment and help on-board more low income and unbanked in the SUAIOM, financially, thus reducing poverty. This will also benefit from the people in such communities feeling the impact and contribution of service providers in their day to day lives.

In looking at research question 3, and the extent that the use of fintech products & services reduce poverty level in SUAIOM, the question that considered, how and in what areas fintech services has helped, how people use the fintech services and their saving culture, and how fintech offering are used, once investigated.

Majority of respondents ascertained that fintech products are used by them for their business. This validates the income profile discussed earlier that people consume or spend all they earn and thus don't save. Therefore, the category of users that benefit the most from services are business users with regards to the above and the use of fintech products in savings, there is still a majority of people who do not save or use fintech products. The reasons for this culture of reliance on local cooperatives is largely those of proximity (ability to access cash), the need to be able to save money at any time of the day. subsistence farming or living leads to irregular savings patterns and as such, going to the bank becomes a challenge. The development and expansion, by on-boarding of a large number of people, will reduce the dependence on cash and more electronic transfers. This also leans into fintech offerings and explains why respondents believe in using fintech services for financial rewards & fringe benefits. Financial rewards and benefits are largely driven by financial gifts, remittances from family members in urban areas and the ease of transfer of money (non-cash). This is one area or incentive that people keep bank accounts in rural communities. As we continue to face the challenges of insecurity, poor transport logistics, the culture of family and sending money (remittances) has greatly supported the use of fintech product and service.

Also, with the need to use fintech products and services, comes the ability to borrow money. Respondents use their local cooperative as much as banks. Banks will be used for business purposes (microloans) whilst the cooperatives are used for the same reasons as people save with them.

Research question four, considers how the quality of fintech products and services affect poverty reduction. Quality is defined here as the ability, not only to design products, but also to ensure that these products serve the community and also are usable by them. Consideration was given to the impact of fintech products on poverty alleviation programmes, as well as the effectiveness of the fintech products & services in reducing poverty. Availability of

information (in the same context as education and awareness, discussed earlier) was also considered. With respect to the effectiveness of financial inclusion on fintech products & services, a number of the reasons given, why respondents felt that there are challenges can be easily resolved, using technology and reducing the need for people to visit brick & mortar banks. Challenges such as unfriendly business environment, bad geographical location, reducing physical access, system structure. These require and will be eradicated by increased education and awareness initiatives to complexity of financial products, lack of products and products knowledge and insufficient infrastructure leans on the quality improvement of products. Products need to be designed with rural community in mind & not standard out of the box products and services that only work in urban service areas.

This also addresses the challenges of financial inclusion (using fintech products & services) in reducing poverty through its effectiveness in poverty alleviation programmes. The quality of products designed for the rural communities, that understand the separation of use and are specific in nature and concept to the rural communities is important. Simple and adaptive products should be designed, taking into cognizance the lack of sophisticated infrastructure (connectivity) and availability of resources. The use of the internet or web driven applications as opposed to SMS driven products, which suit rural communities better as a result of affordability and ease of use.

## Endnotes

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- <sup>1</sup>B. Adebayo, *Nigeria Overtakes India in Extreme Poverty Ranking*. Available online: <https://edition.cnn.com/2018/06/26/africa/nigeria-overtakes-india-extreme-poverty-intl/index.html>
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- <sup>3</sup>M. Avais, *Financial Innovation and Poverty Reduction*. **International Journal of Scientific and Research**, 4(1), 2018, 105.
- <sup>4</sup>V.Okoye, K. Nwisienyi, & O. Obi, *Emerging Financial Technological Innovation and Economic Growth in Nigeria*. **EPRA International Journal of Research and Development**, 9(4), 2019, 153-162.
- <sup>5</sup>D.Paripunyapat, & T.Kraiwanit, *Financial Technology Acceptance in Bangkok Metropolis and Vicinity*. **Review of Integrative Business and Economics Research**, 8(3), 2018, 54-60.
- <sup>6</sup> S. Mlanga, *Implications of Financial Technology for Professionals in Financial Services in Nigeria*. **International Research Journal of Finance and Economics**, 172, 2019, 70-89.
- <sup>7</sup>N.Kiilu, *Effect of Fintech firms on the Financial Performance of the Banking Sector in Kenya*. Master's thesis, University of Nairobi, Kenya, 2018.
- <sup>8</sup> G, D. Ahmed-Ishmel, C. Onyeiwu, & O, A. Onyeiwu, *The Impact of Financial Technology in the Operations (Payments/Collections) of SMEs in Nigeria*. **International Journal of Innovative Research and Development**, 3(7), 2018, 1-18.

## **Chapter Five**

### **Conclusion**

An overview of the major findings of the study, which was centered on the study's objectives, is presented in the first section of this chapter. In the following manner, the rest of the chapter is organized: In addition, the findings and recommendations of the study are reported in this portion of the chapter, which concludes the chapter.

The final section of this chapter makes recommendations for future research.

#### **5.1 Summary of Findings**

In a few selected semi-urban districts of Ibadan Metropolis, Oyo State, Nigeria, the study examined the benefits of financial inclusion on reducing poverty and the moderating effects of fintech. The model was put to the test in order to confirm the financial inclusion and FinTech hypotheses. The moderating impact of FinTech on the link between financial inclusion and poverty reduction is the subject of this study, which is a pioneer in the field of empirical analysis.

The originality of this study rests in its examination of financial inclusion and microfinance and how they affect the eradication of poverty in a place where there is still little research on the subject. The study is important because it contributes to the backdrop of financial inclusion, poverty reduction, and the moderating impact of FinTech as described in the model. The investigation of the moderating effects of FinTech on the connection between financial inclusion and poverty reduction is another major theoretical contribution.

#### **5.2 Conclusions**

Nigeria has a low level of financial inclusion when compared to the rest of the world. Inclusion of the financial sector would not be able to help Nigerians lower their poverty rates or accelerate their economic growth. To effectively fight poverty, it is essential to

comprehend the factors that influence financial inclusion in Nigeria as well as how financial inclusion affects poverty. This study sought to identify the most likely solutions to the issues influencing financial inclusion in Nigeria as well as how financial inclusion may help reduce poverty in the area. It used statistics from certain semi-urban districts of the Ibadan metropolitan in Oyo State. The journal African Development published the study's findings. The study's most significant findings are listed here, in no particular order.

The study first finds that the majority of Nigerian settlements are located in medium-sized financial hubs. This finding supports the idea that policies promoting financial inclusion should work to increase the total level of involvement in the formal financial system.

Second, the level of financial inclusion in Nigeria is significantly influenced by the Gross National Income (GNI), per capita income, and remittances when compared to other national variables. In other words, financial inclusion in emerging nations is significantly impacted by increases in per capita income and repatriation. The results of this study are consistent with the idea that per capita income is by far the most important factor affecting financial inclusion in Nigeria, and that involuntary financial exclusion in Nigeria is more likely to be influenced by low household income and a high risk profile than by market failures and shoddy contract implementation.

Third, the findings show that financial inclusion does not contribute to the alleviation of poverty in Nigeria. In other words, rather than through its access dimension, financial development contributes to the reduction of poverty in Nigeria through its depth dimension (credit to the private sector as a percentage of GDP). In conclusion, the study's findings are especially important for developing measures to encourage financial inclusion in Nigeria. Since low household income is the main cause of involuntary financial exclusion in the region, the research emphasizes the significance of creating policies that are intended to raise household income levels.

Urban Areas' Specialized Cell for Financial Inclusion. The younger generation believes that financial inclusion is more directly related to rural financial inclusion. We contend that the specific challenges associated with urban financial inclusion call for the creation of a novel approach to overcoming these challenges. Banks must create a specific cell focused on achieving financial inclusion, and they must monitor progress using transaction history, significant customer analytics for business growth, and Non-Performing Assistance (NPA) administration. A Financial Inclusion Index must be developed by the bank, and it must be based on both the use of a bank account and the entire product linkage, which includes payments, savings, loans, and advisory services. The results of our study revealed the adult bank ratio. The bank must first monitor the proportion of adult depositors and ensure that each adult member has access to a banking facility. To inform the public that opening a bank account is the first step toward financial inclusion, the banks must launch an education campaign. Although it is not the only indication, it is one of the indicators of financial inclusion. As part of the entire scheme, adult credit ratios, adult remittance ratios, and adult insurance ratios can all be tracked. The data on family healthcare expenses can help insurance companies create solutions that are suitable for reducing the risk connected with medical emergencies. Urban areas can benefit from greater financial inclusion by utilizing ultra-small branches.

### **5.3 Recommendations**

Based on the study, the study provides the following suggestions for policy development and implementation.

- i. Since low family income and a high risk profile are the two main factors influencing financial exclusion in Nigeria and per capita income is the most important indicator of financial inclusion, the region's policy makers and leaders must develop policies and conduct research that concentrate on involuntary exclusion as it can be solved by

appropriate economic programs and strategies that can be intended to increase income levels and correct market failures and imperfection.

- ii. The second issue is that financial inclusion in Nigeria results in a credit to the private sector rather than a significant decrease in poverty (financial depth)
- iii. Nigerian policymakers should make every effort to put into practice effective innovations that will allow the benefits of financial inclusion to be achieved in a secure way.
- iv. Financial education and campaigning on the benefits of using financial services, especially in rural areas, is highly recommended.
- v. In order to encourage greater participation and an inclusive financial system in Nigeria, as stated in the Nigerian Constitution, financial service providers should design financial products to suit the level of education in any given environment, which reduces the burden on documentation related to account opening, bearable service charges, less time-consuming loan processing, and affordable interest rates.

Furthermore, the following initiatives can help to increase financial inclusion in urban areas:

- i. Since the urban poor have a limited ability to save, households should be allowed to open bank accounts without being compelled to keep a minimum amount.
- ii. In line with the study's findings, customers also demand banking services within a specified window of time (70 percent want banking services between 4 and 9 p.m.), suggesting that nighttime hours for banking should be added at establishments close to slums.
- iii. Engage in asset-based lending activities without requesting collateral in clause.
- iv. Provide instruction in banking with the aim of enhancing banking procedures (high correlation and regression coefficient of education level with banking inclusion will confirm this strategy)

- v. The most common reason people save is for an emergency (83%), followed by education (61%), job (21%), and old age (14%), when deciding on the best deposit programs (7%).
- vi. Create adequate credit plans based on the borrower's aims (the top reason for borrowing was for business purposes, accounting for 41% of all borrowing), "other purposes," which included consumer loans, and other factors (45%).

#### **5.4 Contribution to Knowledge**

Financial Inclusion and Poverty Reduction in Selected Semi-urban Areas of Ibadan Metropolis, Oyo State were the study's primary objectives, which were evaluated and documented. Financial inclusion and microfinance assumptions were evaluated against the model to see whether they held up in real life. For the purpose of highlighting the academic contribution of this work, we must point out that there have been previous studies conducted on the suggested model in terms of the impact of financial inclusion on poverty reduction.

Although this study is a pioneering piece of research in the field of empirical studies on the moderating impact of financial inclusion and poverty reduction, it is not without its limitations. The originality of this research consists in the investigation of financial inclusion and its impacts on poverty reduction with particular reference to a port of call in semi-urban regions of Ibadan Metropolis, Oyo State, where there has been little research on poverty reduction in recent years. Aspects of this research include an examination of the moderating function of microfinance, as indicated by the model. The work is important because it makes a contribution to the field of microfinance, financial inclusion, and poverty alleviation. Our primary theoretical contribution, in addition, is the investigation of the moderating effects of fin-tech on the connection that associates financial inclusion and the reduction of poverty.

Overall, the findings indicate that financial inclusion has a favorable and considerable influence on poverty reduction. The findings of this study are consistent with previous research, which suggests that when financial inclusion is implemented in rural areas, poor households are more likely to take advantage of the opportunity to have financial services available to them to invest and seek out financial services that will raise their standard of living. Additionally, the findings are consistent. Financial inclusion of the excluded poor adult population in Nigeria has the ability to unlock their productive potential by assisting them to get active in productive endeavors.

### **5.5 Suggested Areas of Further Research**

Future research should study other factors that may influence the variables in the proposed model, for instance future researchers should consider government policy, interest rate, and risk management their study. It would also be useful to analyze other potential moderators, such as risk culture, bank size, and bank age. Finally, this study considered only Oyo State. In future studies; it would be of value to select other states in Nigeria. Therefore, there is need for adequate financial and political security research measures to be put in place. This will ensure a financially and politically secure system of governance that would heighten public confidence in formal account creation and increase savings deposit mobilization within the financial system.

More importantly, it will aid more Research act as a catalyst in assisting the monetary authorities (CBN) realize the goal of repositioning the country's economy to compete globally in the ongoing economic policies for Financial Inclusion. Natural and economic resources should be fully researched and used as alternative ways of revitalization and diversification of her oil-dependent economy's mono-cultural character.

What studies have shown so far is that fintech is fast growing and is here to stay. However, there are some pertinent questions to be considered. What do these technologies really mean for businesses and consumers? How will fintech disruption of the financial sector, help to drive financial inclusion? What are some of the challenges and opportunities for growth? Can the Regulators and Law makers keep up?

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## Appendix

### Questionnaire on Financial Inclusion and Poverty Reduction: The Moderating effects of Financial Technology (FinTech) in Selected Semi-Urban Areas of Ibadan Metropolis, Oyo State, Nigeria

Dear respondents,

My name is Ayoola Abimbola, Esofrom Lead City University, Ibadan, Department of Management and Accounting (Finance). I am conducting a research on the topic above. This questionnaire is designed to gather information to assist in carrying out this research which is part of my academic requirements for Philosophy Degree. Kindly respond honestly by ticking the appropriate responses to the questions or information needed.

Your responses and information in the questionnaire will be confidential and anonymous.

Thank you very much.

#### Researcher

#### Section A: Demographic Data of Respondents

1. Gender: Male  female
2. Age: 20-29  30-39  40-49  50-59
3. Income Level: below 18,000  18,000-20,000  20,000 -30,000  above 30,000
4. Employment Status: Unemployed  farming  casual employer  civil servant  retired
5. Highest Educational Qualification: Primary  SSCE  ND/NCE  HND/B.Sc  Post Graduate
6. Residence: semi-urban  urban

## Section B:

**Instruction:** Please tick [X] in the appropriate box

1. Proofs and Possession of Identity by Households. NIMC Card [ ] Voter's Card [ ] Driving License [ ] BVN [ ] International passport [ ]
2. How would you rate the level of poverty in semi-urban areas? Low [ ] Very low [ ] High [ ] Very high [ ] Undecided [ ]
3. Preferred Timings for using Fintech products. 8am -11am [ ] 11am-2pm [ ] 2pm-4pm [ ]
4. How often do you use Fintech Products? Every day [ ] Every week [ ] Every Month [ ] Once in six month [ ] I don't use to [ ]
5. What do you think will reduce poverty in your community? Education [ ] Distributing [ ] Motorcycles to the youths [ ] Giving out soft loans [ ] Provision of social amenities to the rural areas [ ] Undecided [ ]
6. How has available fintech contributed to poverty alleviation in your area? Financial contribution [ ] Provision of highbred seedlings [ ] Provision of social amenities [ ] Enlightenment programs [ ]
7. Major reasons for availing Fintech. Business [ ] Consumption [ ] Social [ ] To offset a loan [ ] Because of the opportunity [ ]
8. Preference for Saving. Corporative Organizations [ ] Bank [ ] Home [ ] Other Savings [ ] None [ ]
9. What the fintech can Offer: Financial reward [ ] Fringe benefits and package [ ] Job security [ ] Social satisfaction [ ] Opportunity advancement [ ] All the options listed above [ ]
10. Lending Behaviour of the people with using Fintech. From Corporative Organization [ ] Friends and Families [ ] Do not have any debt [ ] From Bank [ ] Money lenders [ ]
11. How would you classify poverty alleviation programme in your area trough financial technology? Sectoral [ ] Sub-Sectoral [ ] Reliable Commodity [ ] rural development [ ]
12. What are the factors affecting effectiveness of financial inclusion? Unfriendly business Environment [ ] Lack of sustainable growth [ ] Insufficient infrastructure [ ] Bad geographical location [ ] Reducing physical access [ ] Uncure of financial

institution's staff [ ] System Structure [ ] Complex financial products [ ]  
Information and awareness [ ] No products and procedures knowledge [ ] Low  
earnings (income) [ ] Poor financial discipline [ ] Poor business practices [ ]

13. Provision of Adequate Information on respondent account ownership through Fintech.

Yes [ ] No [ ] Have but not in usage [ ]

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## Appendix II

### Convergent validity and reliability

Construct	Construct Standardized loading	Cronbach's Alpha	Composite reliability
Financial Inclusion		0.897	0.920
Finclu1	0.775		
Finclu10	0.786		
Finclu2	0.852		
Finclu3	0.906		
Finclu5	0.758		
Finclu6	0.553		
Finclu8	0.889		
Finclu9	0.574		
Financial Technology [FinTech]		0.906	0.929
FinTech2	0.876		
FinTech3	0.692		
FinTech4	0.919		
FinTech5	0.926		
FinTech8	0.861		
FinTech9	0.669		
Poverty Reduction		0.843	0.882
PovertyRed11	0.667		
PovertyRed2	0.677		
PovertyRed3	0.877		

PovertyRed4	0.629
PovertyRed5	0.818
PovertyRed6	0.597
PovertyRed9	0.748

**Discriminant validity test**

	Mean	Std. Dev	Financial Inclusion	Financial Technology	Poverty Reduction
Financial Inclusion	4.1246	0.4604	0.772		
Financial Technology	3.9859	0.4945	0.215	0.830	
Poverty Reduction	3.8120	0.4866	0.313	0.276	0.723

**Path Coefficients**

Hypothesis	$\beta$	Std Dev	T-Value	P Values
Financial Inclusion → Poverty Reduction	0.236	0.057	4.162	0.000
FinTech → Poverty Reduction	0.140	0.040	3.518	0.000
Moderating Effect	0.192	0.058	3.312	0.00
FINTECH → Poverty Reduction				

## Biodata

Full Name: Ayoola AbimbolaEso  
Address: 35a LadiAlakija Avenue, Lekki Phase 1, Lagos  
State: Osun State  
Email: ayoeso@gmail.com  
Phone No: +2348022913114  
Date of Birth: July 24, 1966  
Placeof Birth: Lagos Island, Lagos State  
Nationality: Nigeria  
Next of Kin: Mrs. Sade Eso  
35a LadiAlakija Avenue, Lekki Phase 1, Lagos

## Education

- Msc. Finance and investment, South Bank University 1990 – 1991
- BSc. Economics, University of Lagos 1984 – 1987
- SSCE, King's College Lagos 1977 – 1982

## Certificates

Certificate in management Studies (for executives), managing finance, financial and management accounting, project design and research methods, Corporate Finance and managing business resources.

## Assessment Panels

He also served on Subject Assessment Panels & examination boards and as a students' tutor, developing tutorial & learning aids for students.

## Work Experience

- CEO, Three Consulting Zambia Ltd Jan 2007 – Present
- Deputy General Manager, United Bank for Africa Plc 2005 – 2006
- Deputy General Manager, Standard Trust Bank Plc Dec. 2004 – Aug 2005
- Group Chief Information Officer 2004
- Chief Marketing Officer, 21st Century Ltd Feb 2003 - Dec 2003
- Consultant, Cap Gemini Ernst Young, Germany 2002-2003
- Vice President, Heirs Alliance Ltd Aug 2002 - Apr 2003
- Manager (Product Marketing)  
Siebel Systems UK Limited Oct 1999 - Oct 2002
- Consultant, Digital Equipment  
Corporation/ Compaq Corporation, EOMC Dec 1998 - Feb 1999
- Part-Time Lecturer, University of Greenwich,  
Business School/ Bromley College, Mar 1996 - Aug 1998
- Partner, Everest Consulting Ltd Nov 1995 - Dec 1996
- Senior Banking Officer, Guaranty Trust Bank PLC Aug 1992 - Sep 1995
- Data Analyst, Financial Times-Extel Ltd. UK Jan 1990 - Jul 1992
- Lecturer, Business School, University of Greenwich 1996- 1998
- NYSC, United Bank for Africa, Kano Main Branch 1987-1988
- Lecturer, Bromley College,  
Association of Accounting Technicians programme.

## Publications

- (with Anna Masłoń-Oracz) *The Impact of Payment Services Directive2 (psd2) on Financial Services in the EU Single Market*. The Review of European Affairs /Polish European Community Studies Association, Jan 6, 2019.
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**Signature**

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**Date**

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### University Compliance Certification

This is to certify that this Thesis written by Ayoola AbimbolaEsowith the matriculation numberLCU/PG/000051 in the Department Accounting and finance, Faculty of Management and Social Sciences, Lead City University, Ibadan is in full compliance with the approved University format and style.

.....

**Signature**

.....

**Date**

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