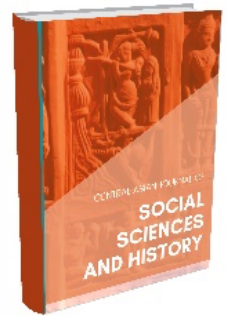




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### Point of Sale (POS) and Job Creation in Enugu State, Nigeria: A Study of Nsukka Urban, 2012-2021

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#### Abstract:

One of the greatest problems facing most Nigerian urban, rural and remote settlements is how to access banks and their services for daily businesses. Almost every transaction for business and services requires either physical cash or an online cash transfer. The high rate of youth unemployment and need for easy and accessible cash transaction have prompted an urgent need to provide mobile banking services to meet up with the high demand of and accessibility of bank services to customers in Nigeria. Between 2017 and 2021 the number of POS terminals grew from 155,462 to 542,109. Over the last years, the value as well as the volume of POS payments in Nigeria experienced a great increase. Indeed, scholars over the years have been concerned with the study of Point of Sale (POS) business and its ability to provide services in Nigeria. However, the impact of POS business on job creation in Nsukka urban of Enugu state has not been adequately studied. This study seeks then to fill the gap. Using the documentary and descriptive survey method of data collection, content analysis and descriptive quantitative method for data analysis, this study applies the Diffusion of Innovation (DOI)

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theory to determine the impact of POS business on job creation in Nsukka urban. Hence, the study will determine whether the introduction of mobile banking/POS enhanced job creation in Nsukka urban from 2012-2021 and ascertain if the increase of POS terminals increased income of POS vendors in Nsukka urban, from 2012-2021. The study found that the introduction of mobile banking/POS has enhanced the growth of small-scale businesses and a great reduction of youth unemployment in Nsukka urban from 2012-2021. Therefore, the study recommended that proper sensitizations and education should be carried out by the various financial institutions on the different operations and security of the doing business with POS, thus, helping to encourage people to do more with POS in Nsukka urban.

## 1. INTRODUCTION

The contemporary worldwide monetary system has seen several stages, expansions, and advancements throughout the past few centuries. The Nigerian monetary system has undergone a transformation over time, transitioning from a barter system of exchange to one that is primarily based on the usage of commodity, transitional, trade, or pre-colonial currencies, as identified by authors such as Kirk-Green (1960) and Chukwu (2010). The final ten years of the 20th century held significant significance for Nigeria's monetary system, since it saw the initiation of electronic banking, also referred to as online or e-banking (Agbada, 2008). This progression ultimately created a conducive environment for the implementation of a new monetary policy known as the 'cashless policy', which emerged within a span of approximately two decades. The implementation of the new policy was a significant milestone in the monetary history of the nation, as it introduced a novel approach aimed at discouraging the widespread utilisation of physical currency within the economic framework. A cashless economy refers to an economic system wherein transactions are conducted using both physical currency in the form of paper money and intangible electronic forms of payment. The concept does not imply a complete lack of cash transactions within an economy, but rather denotes an economy in which the frequency and magnitude of cash-based transactions are minimised to the utmost extent. Prior to the implementation of the cashless policy in Nigeria, the nation's economy was predominantly reliant on cash transactions for both retail and commercial payments (Nwaolisa & Ezu, 2012).

The Central Bank of Nigeria (CBN) implemented a trial phase of the cashless policy in order to facilitate the transition towards a cashless society. This policy was initially adopted in Lagos State on April 1, 2012 (Ejoh & Okpha, 2014). It is worth acknowledging that the implementation of the cashless policy by the Central Bank of Nigeria (CBN) in the country's banking system has led to the emergence of various alternative financial transaction platforms such as Electronic Banking, Mobile Banking, Point of Sale Terminals (POS), Automated Teller Machine (ATM), Web Banking, and the ability to encash third-party cheques exceeding ₦150,000 (Ovat, 2012; Agbada, 2008). The implementation of point-of-sale (POS) terminals for the initiation of electronic financial services in Nigeria can be traced back to November 2011. During this time, the Central Bank of Nigeria (CBN) released a guideline outlining the start of these services, which became effective in December of the same year (CBN, 2011). The issuance of guidelines for POS card acceptance services in Nigeria by the

Central Bank of Nigeria (CBN) in 2011 was a result of the authority granted to the apex bank under Section 47 (3) of the CBN Act 2007 (as amended). This provision empowers the CBN to establish guidelines that promote the provision of sufficient and reasonable financial services to the public, as well as uphold exemplary standards of conduct and management within the banking system. The point of sale (POS) is a device utilised for the purpose of accepting payment cards in exchange for the purchase of products and services. This service enables cardholders to access their bank account funds and information in real-time through the use of debit or cash cards. This particular electronic financial equipment is responsible for managing credit authorization, facilitating cash deposits and withdrawals, as well as enabling cash payments. It similarly improves the efficiency of electronic fund transfers during point of sale transactions. Businesses acquire point-of-sale (POS) devices from their respective banks and proceed to install them in order to facilitate electronic financial transactions. The process entails the immediate debiting of clients' accounts with the purchase cost at various locations, including petrol stations, supermarkets, and pharmaceutical establishments. This implies that customers have the ability to complete transactions for products and services without the need for actual currency, as the cost of the purchase is deducted from the buyer's card and added to the seller's account.

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Nsukka urban is an area in Enugu state that is made up of a number of communities. Perhaps because of the presence of the University of Nigeria, Nsukka urban is one of the most populated part of Southeast Nigeria. Such high population density made it a hotspot for different kinds of businesses. However, lack of the presence and adequate distributions of financial institutions frequently create entrepreneurial bottleneck for both residents of the area and others who come from surrounding rural communities to do businesses. The consequences of this is long queues in the banking halls and ATM terminals resulting that many people spend much of the time they would use to carry out their trades in either trying to make withdraws or payments (Idoko, 2017). Therefore, Nsukka Urban is witnessing a boom in the POS vendor business. The pioneer entrepreneurs in the business experienced high patronage prompting others, mostly unemployed youths in the area to delve into the business. Today, almost every street in Nsukka urban has at least two POS vendors withdrawing or transferring cash for customers (Idoko, 2021). Between 2012 and 2021, POS value and volume rose from 48.461 billion naira to 6.433 trillion naira and 2.587 million to 75.1 billion respectively. Furthermore, POS terminals grew from 155,462 to 542,109 between 2017 and 2021 and 976,898 by second quarter (Q2) of 2022 (Compiled from CBN, 2021 and NIBSS, 2022). Following the truism, the value of POS in Nsukka also rose from 12.661 million naira to 244.238 billion naira from 2013 to 2021. Also, the estimated number of POS machines distributed in Nsukka grew from sixty two (62) in 2013 to 435 in 2021, total estimated number of POS machines distributed in Nsukka between 2013 to 2021 is 2,037 (compiled from data provided by three banks with highest registered POS terminals (First Bank, Access Bank and United Bank for Africa (UBA) in Nsukka, (2021).

Moreover, the cumulative value of point-of-sale (POS) transactions conducted thus far in the current year amounts to N4.06 trillion. Meanwhile, data provided by the Nigerian Inter-Bank Settlement System (NIBSS) reveals that the amounts of N1.41 trillion, N2.32 trillion, N3.2 trillion, and N4.73 trillion were documented for the years 2017, 2018, 2019, and 2020, respectively. The volume of transactions conducted in the years 2017, 2018, 2019, and 2020 were 146.27 million, 285.89 million, 438.61 million, and 655.75 million respectively. Additionally, a cumulative total of 619.28 million transactions have been documented thus far in the current year. According to data from the Nigerian Inter-Bank Settlement System (NIBSS) in August 2021, there was a 4% rise in the total number of

deployed terminals, reaching 686,577 compared to the previous month's figure of 660,402. Furthermore, there was a significant year-to-date growth of 49.5% in the number of terminals deployed. (NIBSS, 2021). The data illustrates a noticeable trend towards greater use of point-of-sale (POS) systems for conducting transactions. This is particularly evident in Nigeria, where there has been a consistent embrace of the cashless policy. The drawbacks associated with carrying physical currency and waiting in queue at banks for cash withdrawals and deposits are also apparent. Numerous scholars have extensively examined various forms of monetary transactions, such as manual banking and electronic banking, in Nigeria. However, limited attention has been devoted to the study of cashless banking, particularly the correlation between point of sale (POS) businesses and employment generation in the urban area of Nsukka, located in Enugu state, Nigeria. This was the gap which this present study sought to fill.

## 2. RESEARCH QUESTIONS

- i. How has the POS business in Nigerian banking system enhanced job creation in Nsukka Urban, 2012-2021?
- ii. How has the adoption of POS business in Nigeria enhanced the income of POS vendors in Nsukka Urban, 2012-2021?

## 3. OBJECTIVES OF THE STUDY

The broad objective of this study is to examine the impact of point of sale (POS) business on job creation in Nsukka urban, Enugu state, Nigeria, 2012-2021. Specifically, the study was structured to achieve the following objectives:

- i. determine whether the POS business in Nigerian banking system has enhanced job creation in Nsukka urban, 2012-2021.
- ii. ascertain if the adoption of POS business in Nigeria has enhanced the income of POS vendors in Nsukka Urban, 2012-2021.

## 4. LITERATURE REVIEW

The central thrust of this section is to review existing knowledge on the subject matter of Point of Sale (POS) and its implications on job creation in Nigeria and in Nsukka in particular. This is with view of determining the state of knowledge on the subject and identifying a gap with the intention of mapping out the invaluable role of POS in cubing unemployment in Nsukka, Enugu state, Nigeria. In a study conducted in Nigeria, Echeboba and Ezu (2012) found that a majority of respondents (68.2%) expressed dissatisfaction with long queues at banks. Additionally, a significant proportion (28.9%) reported negative experiences with the attitude of teller officers (cashiers), while a smaller percentage (2.89%) complained about the inconvenience of bank locations being far from their residences or workplaces. Similarly, according to data presented by the Central Bank of Nigeria (CBN) during its 24th National Conference in December 2011, it was revealed that 51% of withdrawals conducted in Nigeria were facilitated using automated teller machines (ATMs). Additionally, 33.6% of withdrawals were made through over-the-counter (OTC) cash transactions, while 13.6% were processed using cheques. In addition, payment transactions were facilitated by point of sales machines (POS), which constituted 0.5% of the total, while web-based transactions accounted for 1.3%. Hence, if the implementation of automated teller machines (ATMs) in Nigeria's cash withdrawal system resulted in a decrease in over-the-counter (OTC) withdrawals, it can be inferred that the introduction of a cashless policy, supported by the utilisation of information technology, has the potential to further reduce reliance on cash payments inside Nigeria's economic system.

Akhalumeh and Ohioka (2011) identified certain difficulties associated with the implementation of the cashless policy. The results of their study indicate that 34.0% of the participants identified internet fraud as a problem, while 15.5% highlighted insufficient availability of point-of-sale (POS) and automated teller machines (ATMs) as an issue. Additionally, 19.6% mentioned illiteracy as a problem, and 30.9% remained neutral, indicating uncertainty regarding the predicted or experienced problems. While certain concerns over unemployment were there, there exists a belief that the introduction of companies manufacturing point-of-sale (POS) machines in Nigeria will lead to job creation. Additionally, data obtained from the official portal of the Central Bank of Nigeria reveals that Lagos state, which boasts a population of 17 million individuals, possesses a mere sixty-one Point of Sales (POS) terminals, twenty bank branches, and twenty-four automated teller machines (ATMs) per 100,000 people. These numbers are significantly inadequate in meeting the demands of the population. The aforementioned facts provide empirical evidence that supports the assertion made by Nwaolisa and Ezu (2012) on the issue of a cash-based economy and the implementation of a cashless policy in Nigeria.

Kim and Kim (2007) while agreeing that POS business has enabled entrepreneurs around the world to make more profit by helping them reduce time wastage, mitigate theft and run their businesses more effectively contend that income generation in POS business can be maximized by understanding at least the meaning of the system and the type of work it does. According to the source, the concept of a Point of Sale (POS) can be broadly described as the specific location where a transaction occurs, involving the transfer of ownership and typically physical possession of goods or services from the merchant to the purchaser, and triggering the obligation to pay indirect taxes, such as Value Added Tax (VAT). Hence, a point of sale (POS) typically refers to a retail establishment that serves as a "supply chain management system for customer management," enabling immediate oversight of inventory and sales data. Based on the provided definition, it can be argued that Kim and Kim (2007) assert that point-of-sale (POS) systems provide significant and timely sales information. Consequently, these systems can be utilised to promptly update inventory stock status and produce purchase orders as necessary. Point of Sale (POS) systems have the capability to utilise consumer sales data in a manner that is conducive to the implementation of Customer Relationship Management (CRM) and Supply Chain Management (SCM) strategies. It is in the context of these multi-purpose functions, which a POS system can deliver that Kim & Kim located the system's income generation capacity for the users. Consequently, assignments that would ordinarily take the average businessman days or maybe weeks to do is what a POS system does in minutes and hours thereby allowing the entrepreneurs more time to plan and grow their businesses.

In another work, published six years after the one (2007) reviewed above, Kim and Kim (2011) still emphasizing the importance of understanding the basic mechanism of POS system in order to be able to put it to good use to enable the entrepreneur generate more income. Here unlike in their previous work where their emphasis was laid on the meaning of POS, their attention in the later work was on the types POS system can take. On this, they identified two major types of POS systems. Firstly, it is important to note that a conventional point-of-sale (POS) system consists of several client computers that are interconnected by privately owned connection lines, such as the electronic data exchange (EDI). These client computers are linked to local servers located at one or more retail establishments. The server is responsible for executing all data processing tasks associated with the online point-of-

sale (POS) systems, whereas the client PCs are utilised for user-interface activities. The necessity to uphold the connection between the server and clients during the execution of sales transactions arises from the robust design that heavily relies on the server. Any disconnection in this connection would lead to the loss of data and compel the client to halt all ongoing transactions (sales/entries) until the re-establishment of the link. In this particular sort of point-of-sale (POS) system, the occurrence of server disconnection might pose a significant risk. Consequently, small business proprietors, who are susceptible to consumer dissatisfaction, may be compelled to incur the cost of maintaining an internal server at each of their retail locations.

Kim and Kim (2011) have discovered an additional category of point-of-sale (POS) system, namely the offline, batch-based POS system. Within this particular system, all clients possess the ability to execute all transactions utilising their respective local data cache. The transactions that have been processed are afterwards transferred to the server at regular intervals or upon request. As an illustration, salespersons would transfer the transaction records from their handheld point-of-sale (POS) terminals to a central database upon concluding their work shifts. Given its inherent resistance to disconnection from the server and its lack of real-time data collection from clients, this offline point-of-sale (POS) system is suitable for specific business environments characterised by restricted or unreliable network connections. Based on these two categories, Kim and Kim (2011) believe that the nature of the business one wants to do with POS should determine the type of POS system one should install and use for his or her business. They are of the opinion that when the right system is used there is more likelihood that the entrepreneur would increase his income base. As can be seen, the disadvantage with the first type is network failure, which can lead to system failure and possible loss of funds. The second type although immune from the types of network and system failures associated with the first type, suffers from or has the disadvantage of not having the ability to store and manage the data of both the customer and entrepreneur. However, this shortcoming is assuaged by connecting the POS system to the main server and intermittently transmitting information between the POS system and the main server whenever needed.

Laudon and Laudon (2006) also underscored the relationship between POS business and revenue generation. However as they see it, the ability of POS systems to generate more revenue does not lie so much in the system as it lies in what the systems allow their owners to do. Thus, by reducing time wastage through allowing the entrepreneur to do his work faster, checkmating fraud in financial transactions and offering customers the freedom to do their transaction without having to carry cash and all the risks doing that entails, the POS business serves as a veritable tool of revenue generation for the entrepreneur. However, Laudon and Laudon (2006) underscored that all these advantages of the POS system, do not come without the attendant challenges. The most important of these challenges is associated with system security and without providing an adequate security assurance; POS business can become a source of financial woes instead of being a source of income generation for the entrepreneur. In this context, it has been observed that Microsoft has stated that firewalls serve as the primary means of defence for enterprises. The increasing prevalence of organisations integrating their networks with internet traffic has led to the imperative need for firewalls. It is imperative to acknowledge that firewalls do not provide protection against malicious traffic that is transmitted across lawful communication channels. According to Laudon and Laudon (2006), software firewalls serve as a reliable supplementary measure to hardware solutions, but with the limitation of being effective solely on the computer where they are installed.

In his study, Shapiro (2008) examined the impact of point-of-sale (POS) systems on entrepreneurs'

income generation. He emphasised the importance of implementing a POS system as the initial step in transitioning from manual processes. This system serves as the foundation for business analytics, enabling management to access a wealth of historical sales data. POS software plays a crucial role in the identification and analysis of daily and weekly point-of-sale (POS) performance. According to Casison (2013), empirical evidence suggests that the implementation of a point-of-sale (POS) system can effectively speed the inventory entry process by automating it following the conclusion of sales. Consequently, this automation enables organisations that still rely on manual inventory counts to expedite their inventory management procedures. Therefore, the utilisation of point-of-sale (POS) data enables the generation of sales projections by leveraging historical demand patterns. The influence of this phenomenon on purchase orders is significant, as the determination of purchase quantities should ideally align with the anticipated demand from end-users. In this regard, the utilisation of point-of-sale (POS) data becomes crucial in accurately forecasting the purchasing behaviour of end-users. Forecasts serve as a valuable tool in the context of pricing things and determining the optimal timing for reordering extra units, since they provide insights into the frequency of item sales.

One additional benefit of the point of sale (POS) system in comparison to the manual approach is its inherent flexibility and automation. Polanz (2011) asserts that the primary driver for system upgrades is the enhanced flexibility and automation offered by a new point of sale system, as compared to traditional manual operations. A point of sale (POS) system serves as a mechanism for the automated collection and consolidation of sales data. This data can subsequently be utilised to generate a diverse range of sales reports, encompassing daily reports incorporating historical data, reports spanning a six-week timeframe, reports identifying the highest selling categories, reports highlighting the categories with the highest profit margins, reports identifying the customers with the highest profit margins, reports identifying the items with the highest profit margins, reports ranking customers based on sales, reports identifying the top selling items, and reports categorising sales based on time of day. In the context of the retail agricultural sector, an effective system has the capability to provide a manager with insights into the profitability of different plant varieties, identifying those that provide the most revenue, those that exhibit limited growth, and those that entail the greatest holding expenses. Understanding this information is essential when handling perishable commodities. Point of Sale (POS) systems can effectively address the challenges associated with seasonality, which are pertinent to all agricultural centres. A point-of-sale (POS) system promptly records the sale of certain plant categories as they happen and effectively oversees all transactions. This feature offers management an improved capacity to strategize orders, allocate resources, and adapt business plans to accommodate the seasonal dynamics inherent in the industry. In essence, the implementation of a point-of-sale (POS) system provides companies with the opportunity to acquire novel data, enabling them to adopt a pricing strategy that focuses on individual product margins rather than grouping products into a single price point (Ehrenthal et al., 2014).

Numerous studies and scholarly articles have posited that the implementation of Point of Sale (POS) systems in Nigeria has resulted in the emergence of employment prospects for a significant number of unemployed individuals in the country. Consequently, there has been a rise in the quantity of individuals who have embarked on point-of-sale (POS) enterprises, operating multiple outlets numbering two, three, or more. This expansion has led to the employment of additional employees who were previously unemployed, tasked with managing these outlets on behalf of the business owners. The data indicates that the number of agency banking and point-of-sale (POS) operators has



been steadily increasing since 2017. This trend highlights the benefits being obtained by the individuals responsible for these initiatives. Based on the National Financial Inclusion Strategy (NFIS) document for the year 2019, as published by the Central Bank of Nigeria (CBN), the number of banking agents experienced a significant increase from 38,416 in December 2018 to 236,940 by December 2019. The number of agents increased by more than three times, surpassing 38,000, during the period from 2017 to 2018. The adoption of the agency banking campaign has shown remarkable growth in recent years. In a recent survey conducted by Sunday et al. (2021) in four prominent Nigerian cities (Abuja, Lagos, Kano, and Kaduna), it was found that the implementation of Point of Sale (POS) systems in the Nigerian business sector has resulted in the emergence of employment prospects for the substantial number of unemployed young individuals. This finding was reported by Daily Trust.

According to Blessing Emmanuel, a sales attendant in Abuja, the employment she does is deemed unsustainable because to the inadequate monthly remuneration. However, she acknowledges that the business venture itself generates substantial profits for individuals who possess the necessary resources to develop it. Over time, this enterprise has emerged as a viable alternative to traditional banking institutions. According to Daniel Ebuka, the flexibility inherent in the point-of-sale (POS) business facilitates its operation with less monitoring. He further notes that he receives notifications for every transaction conducted by his sales personnel. The individual reported an average daily profit of N5,000 and highlighted that the firm has facilitated his involvement in other endeavours. According to Stella Ugonna, a Point of Sale (POS) operator located in Gudu, Abuja, her daily earnings range from N3,000 to N5,000, while her monthly income amounts to approximately N100,000. In addition to facilitating deposits and withdrawals using the point-of-sale (POS) system, she also offers airtime sales. According to Miss Ugonna, she personally managed the point-of-sale (POS) system due to a previous incident where a salesgirl absconded with the entire day's revenue. The primary focus of this enterprise revolves around the handling and management of large quantities of physical currency. One cannot simply employ anyone to manage the task. The individual in question must be trusted, as stated by the speaker.

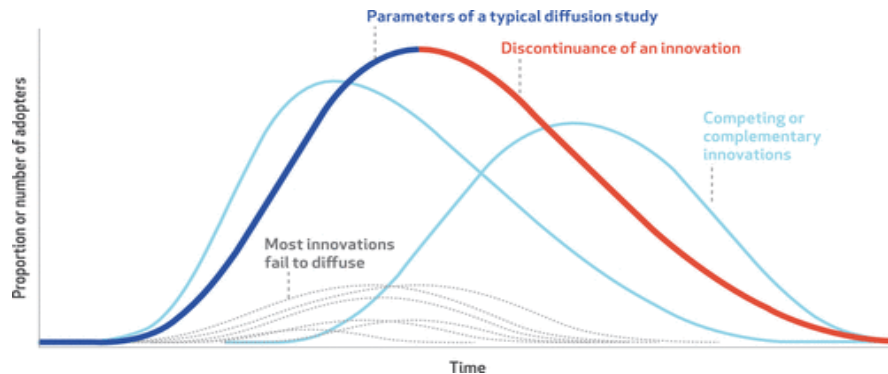
As previously said, there is a scarcity of academic research regarding the relationship between point-of-sale (POS) businesses and their impact on job creation and income generation in Enugu State. The sole existing literature pertaining to this topic is a study authored by the New Agency of Nigeria (NAN, 2021). The paper discusses the impact of the Point of Sale (POS) company, highlighting that it not only failed to produce employment opportunities and revenue for merchants, but also served as a valuable resource for the residents of the Coal City during the Covid-19 lockdown. NAN (2021) reported a notable increase in the utilisation of point-of-sale (POS) services by consumers who were unable to physically visit their banks for cash transactions throughout the duration of the lockdown. The presence of a NAN reporter in the city allowed for the observation of a substantial number of individuals at the point-of-sale (POS) kiosks, where clients patiently formed queues in order to receive service.

Several operators who were interviewed by the National News Agency (NAN) expressed their satisfaction with the significant level of patronage. According to Mr. Linus Ozo, an operator interviewed by the Nigerian News Agency (NAN), he has been generating a daily income of N15,000 on average since the implementation of the curfew. Ozo stated that the imposition of the 24-hour curfew has presented a lucrative opportunity for his business since Wednesday evening. He further elaborated that the closure of banks and the resulting cash shortage has left many individuals stranded,

leading them to seek services from operators like him. According to another operator, Mr. Gozie Uzochukwu, he stated that the business unexpectedly turned profitable, resulting in a profit of about N26,000 since the implementation of the curfew. The individual expressed that, at present, they have not depleted their financial resources. However, they anticipate a potential shortage of funds by Monday if the curfew measures remain unchanged. This is due to the lack of client deposits, as there is a decrease in individuals visiting to do financial transactions. As to his statement, the fees he imposes vary between N200 and 1,000 each transaction, contingent upon the transaction volume. According to Mrs. Martha Anusie, a nurse, she informed NAN that the operators have been providing significant aid to the general population, particularly following the implementation of the curfew. According to Dr. Job Ofor, a medical practitioner, the point of sale (POS) stores serves as a final option for individuals who are unable to visit banks or engage in their usual economic activities to generate income (NAN, 2020).

## 5. THEORETICAL FRAMEWORK

The theoretical framework utilised in this study was Everett Rogers' Diffusion of Innovation Theory, which was developed in 2003. The Diffusion of Innovation Theory is widely recognised as a prominent framework for examining the adoption of information technology (IT) and comprehending the dissemination of IT breakthroughs within and beyond communities. According to Rogers (2003), the act of adoption can be defined as the deliberate choice to fully use an invention as the most optimal course of action, whereas rejection refers to the deliberate decision to not accept said innovation (p. 177). Diffusion can be described as the phenomenon wherein an innovation is disseminated throughout the members of a social system over a period of time through certain communication routes (p. 5). There exist four primary factors that contribute to the success of an IT innovation and, consequently, the diffusion of innovation theory. These factors include the features of the invention itself, the communication channels utilised, the social system in which the innovation is introduced, and the temporal aspects or characteristics of the adopters. According to Rogers (2003), an innovation refers to an idea, practise, or initiative that is viewed as novel by an individual or another entity of adoption (p. 12). Put simply, while an innovation may have been created in the distant past, if folks view it as novel, it can still be considered an innovation from their perspective. According to Rogers (2003), the innovation-decision process may be characterised as a cognitive activity including the search and processing of information. The primary motivation behind this process is to minimise uncertainty regarding the potential benefits and drawbacks associated with adopting an invention (p. 172). According to Rogers (2003), the innovation-decision process encompasses five distinct stages: (1) knowledge acquisition, (2) persuasion, (3) decision-making, (4) implementation, and (5) confirmation. These stages often occur sequentially in a chronological order. According to Rogers (2003), the process of innovation diffusion may be characterised as a means of reducing uncertainty. In light of this, Rogers put out a set of traits associated with innovations that serve to diminish uncertainty surrounding them. The traits encompass five user-perceived qualities, namely Relative Advantage, Compatibility, Complexity, Trialability, and Observability. The diagram presented below illustrates a standard pattern of invention diffusion.



**Source:** Authors' analysis. NOTE each curve represents a separate hypothetical innovation

### 5.1 Application of the Theory

The relationship between POS business and job creation on the one hand and revenue generation on the other hand in Nsukka Urban is better explained in the light of diffusion of innovation theory. This is because the theory explains why POS business in spite of being a new entrant or a newcomer in the business climate in Nigeria in general and Nsukka Urban in particular, is not just the most diffused but the most adopted innovation in these environments. In the main, the theory demonstrates that the POS system possess the basic qualities which according to diffusion of innovation theory enhances the early adoption and easy diffusion of a new innovation in a social system. First, the theory unearths the ease with which the POS business is adopted in Nsukka Urban is based on the fact that the system solves a basic business need in the environment. Before the introduction of POS business accessibility to cash for business was a serious bottleneck for both business owners and other traders. This stress and loss of real business time has been drastically reduced through the introduction of POS business. The theory of diffusion of innovation in this context explains that an innovation which solves a social problem has a high rate of adoption.

Secondly, the theory will unravel that the profitable nature of the POS is the reason while many, especially unemployed youths are rushing into the business resulting in an enormous yearly percentage increments in the number of POS vendors in Nsukka Urban over the past few years. This is in line with one of the key principles of the theory, which states that the more profitable an innovation is in a social environment, the faster or easier it is for it to be adopted. Thirdly, the theory will show that the user friendly or easy to learn and use nature of the POS system is another reason behind its high rate of diffusion in Nsukka Urban. Here many people are adopting the system because the maximum amount of time it takes for a person of average intelligence to master the use of the system is less than 2 hours (Obadia, 2021). This as well synchronizes with one of the key principles of the innovation diffusion theory that the less complex a system is, the easier it is for people to adopt and hence the high rate of diffusion.

## 6. METHODOLOGY

The research design utilised in this study was the Time Series Research Design. This design involves the collection of a substantial number of observations and measurements of the dependent variable (Y) prior to the presumed causal intervention, referred to as the independent variable (X). Subsequently, another series of measurements of the same variable (Y) is collected after the occurrence of the variable (X). Time series analysis is a statistical method that involves the collection of data on a specific variable at regular intervals, such as weekly, monthly, or yearly. The research employed a qualitatively dominating mixed methods approach, incorporating key informant interviews (KIIs),

group interviews, field observations of point-of-sale (POS) business operations in Nsukka Urban, policy assessments, and secondary literature on the cashless economy in Nigeria, mobile banking, and POS transactions. The Key Informant Interviews (KIIs) were employed as a means of data collection from Point of Sale (POS) operators and bank personnel who were picked from certain banks located in Nsukka Urban. The purpose of the group interview was to get insight into the daily lived experiences associated with operating a point-of-sale (POS) business in the urban area of Nsukka. The point-of-sale (POS) agents were scheduled for group interviews utilising a random intercept method, which took place between the hours of 4 pm and 6 pm, prior to the conclusion of their workday.

The documentary method of data collection was also employed. Thus, data for the study was extracted from journal articles, government gazettes, official documents and reports, textbooks, and theses, among others. Also, a key informant interview was physically conducted on selected stakeholders of POS business in Nsukka urban. These individuals were carefully selected from three major commercial banks (First bank, Access bank and United Bank for Africa (UBA) with the highest number of POS terminals and knowledgeable individuals that own and operate POS in Nsukka urban. The interview questions were centered on three different trends; the first trend of the questions was directed to the growth of POS in Nsukka. The second trend of questions was directed to the financial implications of doing POS business in Nsukka. Finally, the third trend of interviews was directed to job created by the introduction of POS in Nsukka. Questionnaires were also administered to selected respondents.

There are sixteen (16) commercial banks in Nsukka Urban; there are as follows; first Bank, Access Bank, United Bank for Africa, Union Bank, Wema bank, Fidelity Bank, Zenith Bank, Guaranty Trust bank, First City Monument Bank, Eco Bank, Keystone Bank, Heritage Bank, Polaris Bank, Stanbic Bank, Sterling Bank and Unity Bank. The assessable population of the study consists of First bank, Access bank, United Bank for Africa (UBA) (three major commercial banks with the highest number of POS terminals in Nsukka Urban), POS vendors and small-scale business owners in Nsukka Urban. From 2013 to 2021 the three aforementioned banks have registered and distributed 2,037 POS in Nsukka. The specific elements of the population include POS vendors and small-scale business owners that use POS in their shops who were actively participated in the assessment work. It is right to note that apart from commercial banks, there are other financial technology institutions that issue POS, fintech like Moniepoint and Opay, but for the purpose of this study we will focus on POS terminals from commercial banks in Nsukka Urban.

To determine the sample size of this study, the researcher used purposive/judgmental sampling (non-probability sampling) (this sampling technique was chosen because of the nature and spread of POS vendors in Nsukka Urban) to select 11 POS vendors and 11 small-scale business owners using POS in their shops from Enugu road, Ogige Modern Market and Odenigbo/Onuiyi each from the 3 major communities in Nsukka Urban (aforementioned), making the total number of POS users for the research 66 persons. The researcher carefully selected these numbers after a thorough field observation of the sprayed of POS terminals in the designated areas. The two research questions were answered hypothetically and the hypotheses were analyzed

Since the study involves a combination of both survey and documentary methods of data collection, data collected through the quantitative method were analyzed using two qualitative statistical tools, in analyzing the data collected, the study adopted Content analysis through logical inference. The content

analysis method offers a deeper and insightful interpretation of data. Using this method, the study organized and synthesized pertinent textual and numerical data from literature and official report with a view of searching for patterns and discerning what is relevant from available materials (books, journal articles, conference paper, and internet materials among others), and on the that basis, draw inference and conclusion. This logical conclusion was, therefore, added to support and augment the data generated from our key informant interview responses from knowledgeable respondents.

## 7. EMPIRICAL VERIFICATION

**Table 1: Background Data of Respondents for KIIs/FGD**

Item	Frequency	Percentage
(a)	(b)	(c)
<b>Sex Distribution</b>		
Male	24	34.8
Females	45	65.2
Total	69	100
<b>Age Distribution</b>		
18 – 25 years	16	23.16
26 – 45 years	52	75.4
46 years and above	1	1.44
Total	69	100
<b>Highest Educational Background</b>		
Primary	0	0
Secondary	48	69.6
Tertiary	21	30.4
Total	69	100
<b>Marital Status</b>		
Single	55	79.7
Married	14	20.3
Total	69	100
<b>Designation of Respondent</b>		
Representative of the three selected banks in Nsukka Urban	3	4.3
POS vendors in Nsukka Urban	66	95.7
<b>Total</b>	<b>69</b>	<b>100</b>

**Source:** Researchers' Field Survey, 2022

Table 1 showed data on background information of respondents. It is evident that the respondents are dominated by the female folk. The male gender constitutes 34.8 percent while the female gender constitutes 65.2 percent. The second segment of the table shows the distribution of respondents based on their age. It indicates that 23.16% of the respondents are between the ages of 18 and 25 years; 75.4% are aged 26-45 years while 1.44% are from age 45 and above. This shows that the respondents are evenly distributed among diverse age groups. The third segment depicts the distribution of workers based on their highest educational record. Thus, about 0% of the sample had only primary education; 69.6% had only secondary school education while 30.4% had tertiary education. On the other hand, 70.7% of the respondents are single while 20.3% of respondents are married. The final segment provides for the designation of the respondents. Accordingly, 4.3% were representatives from three

selected banks of Access bank, First bank and UBA in Nsukka Urban; 95.7% were POS vendors/operators in the selected areas of Nsukka Urban.

**Table 2: Summary of the group interview on the role of point of sale (POS) business and job creation in Nsukka Urban**

Category	Remarks	Freq. (R)
Introduction of POS business and job creation in Nsukka Urban	Does the bank have any form of regulation on POS business	65
	Does one has to open a new account for POS business	42
	POS business is a good innovative policy of the Central Bank of Nigeria	69
	POS business made financial transaction easier	69
	POS business made financial transactions faster	69
	POS is easy to start up	51
	POS business enhanced job creation in Nsukka Urban	67
	POS business enhanced the revenue of the banks	69
	Can one combine POS business with other business	69
	POS business will grow more if the banks and Government assist agents	69
	POS is profitable to POS vendors/Agents	62

Source: Researchers' Field Survey, 2022

**Table 3: Summary of Unstructured Interviews with Participants in the Field Study**

Designation and Coverage of Informant	Channel of Information	Unstructured Question (Abridged)	Abridged Response
(a)	(b)	(c)	(d)
Representatives of ACCESS bank, First Bank and UBA (3), Nsukka Branch	FGD/Interactions	Are you aware of the CBN policy that establishes the use of POS for financial transactions in Nigeria?	Yes
		Does the bank have any form of regulations on POS business?	Yes. The agents must have an active account with the bank, pay for a POS machine to startup the business.
		How much is required to start up a POS business?	The following factors have to be taken into consideration. 1. <b>Population of the area:</b> in areas with high population, an individual needs to have about #200,000 – 300,000 2. <b>Bank location:</b> if the individual is close to the bank, the vendors may operate with lesser amount

			because customers may decide to visit the banks instead. <b>3. Market area, popular junctions:</b> an agent on these locations needs to have enough cash to able to meet financial needs of the people. (Agents in these locations tend to make more money because of the location).
		Has POS business enhance job creation in Nsukka urban?	Yes. The numbers of POS agents account registrations have increased over the years and they keep growing on daily basis. Secondly, the volume of transaction done through POS on daily basis is enormous. The higher the volume and value of transaction the more jobs for the youths, especially in Nsukka Urban.
		What are the requirements for starting a POS business?	First is having an account with the bank. The POS cost about 20,000 naira and it comes with a mini banner and agent certificates. Again the agent must have money in the account, there are no stipulated amounts to have, and it all depends on the agents' capacity.
		Has POS business enhanced the revenue of the banks?	Yes. Customers spend more now since they have more access to cash and other financial services without the stress of and coming to the banks to queue up.
Selected POS vendors & businesses in Nsukka Urban	FGD/Interactions	How much is required to start up a POS business?	It depends on the agents' capacity and target locations; one can start with 100,000-150,000 naira.
		What are the requirements for opening a POS business	First is having an account with the bank. The POS cost about 20,000 naira and it comes with a mini banner and agent certificates. Again the agent must have money in the account.
		What does the bank charge for POS business	Bank takes approximately 1% charge per transaction on POS machines. For instance, if a customer withdraws 1,000 naira,

			the agent will charge the customer 100 naira the POS machine will deduct 5naira from the agents account. Nothing is being charged on utility bills by the machine rather the machine gives the individual commission ranging from 10 naira to 100 naira. Again individual still add an extra charge of 100 naira for those services if the payment is below 10,000 naira.
		What are the charge deductions per transaction?	It depends on the volume and value of the transactions, the location of the POS outlet; also, it depends on the mode of the transactions (withdrawal, deposit, transfer or payment of utility services like DSTV subscriptions etc). The charge deductions from the customer can be between 100-2,000 naira and above per transaction.
		Is there any association or union for POS vendors in Nsukka	There are no associations or union for POS vendors/agents in Nsukka Urban.
		Are there any limits to transactions per day from POS machine	There are no limits per day. It all depends on the capacity of the POS agents for the day.
		Can one combine pos business with other businesses	Yes, POS business can be combined with other businesses. Most shops owners and business owners also have POS machines in their shops.
		Are there any forms of assistance from the government and the banks to POS vendors	There are no assistance from the neither the government nor the banks. Agents raise their capitals and bear the risks of running the business alone.
		How much do you make per day as a POS vendor	It depends, some days an agent can make between 2,000-10,000 naira. On special it can be more than that. If the agent includes subscriptions for electricity bills, airtime/data subscriptions, GOTV/DSTV etc, the agent tends to make more money



		What are the challenges of POS business in Nsukka Urban?	The risks of carrying a lot of cash in an open and not secured place draw the attentions of armed robbers and thieves, sometimes agents lose their lives in the process. Also, some fraudsters also target POS agents to scam them of their cash or use them for fraudulent activities. Finally lack of constant electricity is also a challenge because the POS machines needs to be recharged from time to time.
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**Source:** Researchers' Field Survey, 2022

The above table therefore suggests that the introduction of POS business has enhanced job creation in Nsukka Urban.

**Table 5: Volume and Value of POS transactions in Nigeria, 2012-2020**

Year	Volume of POS Transactions	Value of POS transactions (Naira)
2012	2,587,595	48,461,883,431.00
2013	9,418,427	161,212,840,665.00
2014	20,817,423	312,071,736,903.00
2015	33,720,933	448,512,548,727.00
2016	63,715,203	758,996,505,702.00
2017	146,267,156	1,409,813,091,608.35
2018	295,890,167	2,383,108,901,148.12
2019	438,614,182	3,204,749,863,644.00
2020	382,845,859	2,806,304,086,834.00

**Source:** Compiled by the authors from, Central Bank of Nigeria, 2021

The point of sale transactions conducted in Nigeria during the initial eight months of 2021 amounted to N4.06 trillion, denoting a 45% surge in comparison to the N2.81 trillion registered during the same time in 2020. The information presented in this study is derived from data collected from the Nigeria Inter-Bank Settlement System (NIBSS, 2021). Based on the available statistics, it is evident that point-of-sale (POS) transactions have reached their peak levels for an eight-month duration, exhibiting a substantial increase of 44.8% and 108% in comparison to the corresponding periods of 2020 and 2019, where the recorded values were N2.81 trillion and N1.96 trillion, respectively.

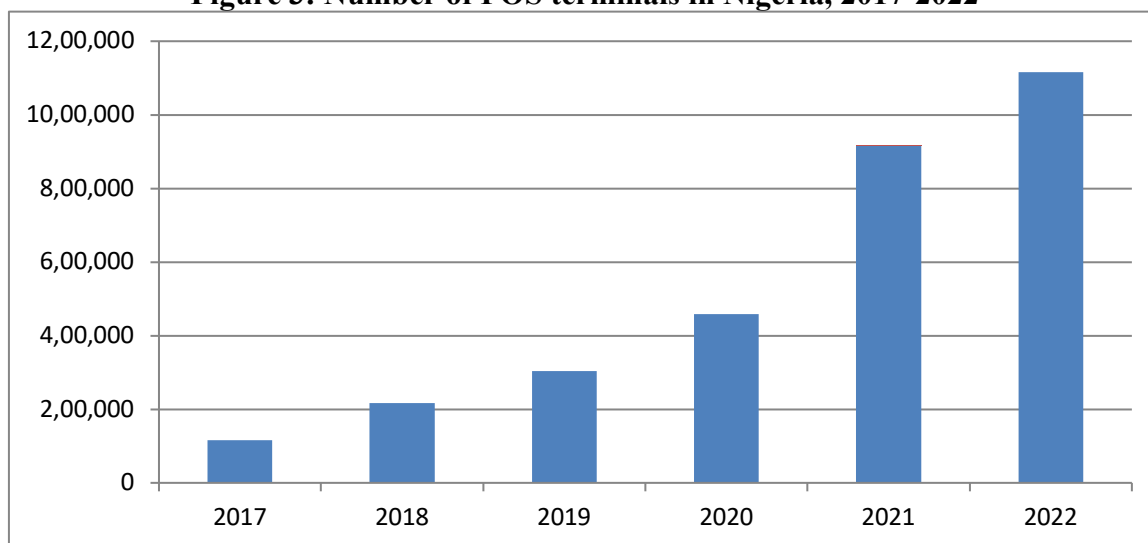
**Table 6: Number of POS terminals in Nigeria, 2017-2022**

Year	Number of POS terminals in Nigeria
2017	155,462
2018	217,283
2019	303,162
2020	459,285
2021	915,519
2022	1,115,272

**Source:** Compiled by the authors from Statista, 2022

In addition, it is noteworthy that there is a growing trend among delivery companies to require point-of-sale (POS) payment for their delivery services, replacing the traditional method of cash payment. Moreover, several businesses have made the decision to cease accepting cash altogether, favouring bank transfers or POS payments as alternative modes of transaction. These findings have been reported by Nairametrics Research. The shift from cash-based transactions to cashless payments in Nigeria is a noteworthy development, as it not only addresses the issue of unemployment but also promotes financial inclusion.

**Figure 3: Number of POS terminals in Nigeria, 2017-2022**



**Source:** Compiled by the authors from Statista, 2022

The chart above is a representation of the growth of the number of POS terminals in Nigeria, from 2017 to 2022. It grew from 155,462; 217,283; 303,162; 915,519 to 1,115,272 respectively.

**Table 7: 2013-2021 generated revenue from POS by First Bank, UBA & Access Bank**

Year	First Bank		UBA		Access Bank	
	POS Distributed/	income (N)	POS Distributed/	income (N)	POS Distributed/	income (N)
2013	27	4,860,000	20	4,234,000	15	3,567,000
2014	36	6,049,728	30	5,356,000	25	4,678,000
2015	52	12,480,000	45	10,348,000	35	8,786,000
2016	71	19,596,000	55	17,567,000	44	15,890,000
2017	102	31,824,000	64	30,367,000	53	25,234,000
2018	124	44,640,000	82	40,389,000	67	38,213,000
2019	141	54,144,000	90	52,567,000	75	46,112,000
2020	161	67,620,000	102	64,639,000	86	67,124,000
2021	178	85,440,000	130	82,564,000	127	76,234,000

**Source:** Compiled by the authors from data provided by the banks (2022).

While there are no data in extant literature on job creation and revenue increase for small-scale business in Nsukka Urban resulting from the use of POS, the general trend in Nigeria and Nsukka

Urban is that the introduction of POS has led to dramatic increase in bank generated revenue. It can as well be deduced from the yearly increment in the number of POS given out by the three major banks in Nsukka Urban and the growth in revenues that accrue to these banks that there are increase both in the job created by POS business and the revenue generated by small-scale businesses using the machine in Nsukka Urban. All these evidence support what is inferred in the two hypotheses above namely, that the introduction of POS in 2013 in Nigeria has on the one hand, led to Job creation for the unemployed and on the other hand to increase in the revenue generated by small-scale businesses in Nsukka Urban, between 2012 to 2021.

## 8. CONCLUSION AND RECOMMENDATIONS

The study determined the contribution of POS Business in Job Creation in Nsukka Urban, Enugu State of Nigeria from 2012 to 2021. The main objectives of the study were to examine the extent to which the introduction of POS business has helped in job creation for the unemployed youths and the extent it has increased the income of small-scale business owners in Nsukka Urban. The study revealed that the introduction of POS in Nigeria has led to job creation for POS vendors and increase in income for small-scale business owners that use POS in Nsukka Urban, Enugu State in the period covering 2012 to 2021. The paper concluded that the introduction of POS in Nigeria has served as an effective job creation instrument for the teaming unemployed Nigerians, especially the youth in Nsukka Urban. The introduction has also served as a veritable source of increase in revenue for small-scale business owners in Nsukka Urban who to attract sales, reduce time wastage, eliminate theft and manage their businesses more effectively.

- i. Government should give support, in the form of awareness, training and loans to those who are interested but cannot afford the POS machines and other POS accessories.
- ii. Those already in the business should advise and guide other unemployed friends to join the business instead of staying idle at home.
- iii. The basic challenge for POS vendors, especially those who operate in the rural areas is armed robbery. Provision of adequate security by the government will encourage these vendors
- iv. Finally, network and system failures are other challenges of agent banking. These have resulted to the loss of money and businesses for those who do business with POS. Network providers should make the necessary efforts to stabilize their services.

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