Factors Affecting Adoption of Point of Sale Terminals by Business Organisations in Nigeria

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Abstract
Nigerian payment system is cash-driven because cash is the main mode of payment. Cash based transaction is risky and cumbersome and unhealthy for any economy. The Central Bank of Nigeria introduced a cash policy in 2011 to ensure that cash-based transactions are kept to the barest minimum. Among the initiatives is the introduction of Point of Sale (POS) to business organisations. This paper investigates the factors affecting adoption of POS by organisations in Lagos and Ibadan metropolis, Nigeria using the Technology Acceptance Model2 as the theoretical framework.

The study adopted survey design by sampling 200 organisations that have adopted POS in Lagos and Ibadan metropolis using questionnaire as the research instruments. The results reveal that subjective norms and perceived ease of use have significant relationship with adoption of POS machine by the organisations. However, the characteristics of the organisations, image and perceived usefulness do not have significant relationship with adoption of POS. The study provides a guide to banks on the factors they need to put into consideration when deploying POS machine. The study has some limitations, one of which is that the population was limited to only two states therefore, the findings may not be generalised to the entire country.

Keywords: Adoption, Business Organisations, Nigeria, Point of Sale.

1. Introduction

The importance of effective and efficient payment systems has been closely monitored and promoted by monetary authorities in all countries of the world because the development of a national economy relies on encouraging a payment system that is secure, convenient and affordable. The economy of many nations has encountered challenges as to ensure security, convenience, and affordability of the payment system. Therefore, nations have developed effective and efficient payment systems that guarantee transactions required for a sustainable economic development. However, the Nigerian payment system has been said to be cash-driven. Ajayi and Ojo (2006) cited in Yaqub, Bello, Adenuga and Ogundeji (2013) explained that cash is the main mode of payment in Nigeria and a large percentage of the population is unbanked. Majority of the citizens keep cash at home which make them vulnerable to security risks. This situation is also found in most developing countries in Africa as the society still depend largely on physical cash for monetary transactions. This makes these countries to be heavily cash-based economy.

Cash based transaction has some advantages in that it is always valuable, provides full and final settlement of a transaction, allows for anonymity once issued, and regarded as a public good by its users (Yaqub et al., 2013). However, cash based economy is risky, cumbersome and not healthy for a nation economy. This is because money that is not in control of banks cannot be subjected to regulatory check and operational procedures (Adeoti 2013). Moreover, the cash carrying nature of developing countries has been discovered to be the reason for their lagging behind in development.

Some challenges that result from high cash usage are robberies and cash-related crime, revenue leakage arising from too much of cash handling, inefficient treasury management due to nature of cash processing, among other challenges. While cash may be convenient, it makes taxation less transparent, and it is costly to distribute, manage, handle and process. The high cost incurred by commercial banks to move cash within branches and to make deposit in the central bank is another challenge. Cost of transportation and security of cash and that of bank staff is also of concern. Excessive cash movement also leads to emergence of corrupt practices in the country. Furthermore, excess cash in circulation bring the occurrence of money laundering by citizens who have too much cash and would not want to be questioned on how they acquired it.

The cost of cash to Nigeria financial system is high and increasing as the cost was very close to NGN 50 billion naira in 2008 (Central Bank of Nigeria [CBN], 2011). An overview of CBN's policies on cash management reveals that Nigeria's financial system is on the high and increasing side. The direct cost of cash was estimated to reach NGN 192 billion by the end of 2012. These costs arises from frequent printing of currency notes, currency sorting, cash movement, keeping large amount of cash, security cost of checking high incidences of robbery and burglaries, among other costs. It therefore follows that cash as a mode of payment is expensive for the Nigerian government. As a result, there is need to reduce these costs, the

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volume of cash in circulation, the risks associated with carrying cash, and encourage the use of non-cash payment means through electronic system of payment.

The statistical evidence provided by CBN (2012) also revealed that, cash related transactions accounted for over 99% of customers' activities in Nigeria banks as at December, 2011. It estimated the total cash transaction volume through the conventional five payment channels to be 215,015,003, of which ATM withdrawal accounted for 51.20%, over-the-counter withdrawal, 33.55% and cheques 13.50%. Point of sales (POS) and web channels accounted for 0.49% and 1.26% respectively. This provides the evidence that the Nigerian economy is heavily cash-based and the imperative for a means to reducing the volume of cash in circulation.

2. Statement of the problem

The pilot scheme of implementation of cash policy was carried out in Lagos state which commenced in January 2012. By March 2012, the CBN introduced some service charges on cash transaction to deter customers from cash-based transactions. The policy was introduced to six states of the federation (Rivers, Anambra, Abia, Kano, Ogun and the Federal Capital Territory. The implementation of cash policy took effect in the remaining 30 states of the federation on July 1, 2014. Observation has however revealed that many purchasers of goods and services still make large purchases and do payment for goods and services using cash. This thereby bring about high cost of cash, high risk of using cash, high subsidy, informal economy, inefficiency and corruption. Adeoti and Oshotimehin (2012) reported that despite the general increase on the rate of adoption of e-payment instruments in Nigeria, the rate of adoption and use of POS is low compared to the rest of the e-payment system. Among the factors that have been attributed to low adoption of POS in Nigeria is low level of awareness of the benefit of using POS, lack of adequate infrastructure, low internet penetration, network failure, absence of open standards or trust among banks and providers, awareness of POS availability, frequent power outage, limited numbers of POS per merchant store where they are available, preference for cash, as well as security of communication over the network, (Ayo & Babajide, 2006; Adeoti, 2013, NIBSS, 2015).

In a survey carried out by Financial Derivatives Company (FDC) Ltd for Nigeria Inter-bank Settlement System Plc (NIBSS) in 2012, it was found that in spite of having POS terminals, avenue to electronic funds transfer, and cheques payment, most merchants still accept cash above POS. Investigations on why the merchant accepted cash over electronic payment while they have the POS terminals revealed that the POS deployment was involuntary as they were deployed by banks without being solicited for by the merchants. Another reason for non-use was due to delays associated with access to funds after sales from the POS. Poor connectivity was also cited as a challenge to POS usage (NIBSS, 2012).

Furthermore, while there are studies on e-payment system adoption such as ATM, internet banking, there has been dearth of literature on POS especially factors influencing its adoption in Nigeria. Therefore, the main objective of this study is to empirically investigate the factors that

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influence the adoption of POS by business organisations in Lagos and Ibadan metropolis, Nigeria.

3. The evolution of the Nigerian payment system

The Nigerian payments system has evolved over the past few decades. The modern payments system started being completely paper-based with the use of banks notes, payment orders, and cheques. In 1996, the payments system was modified to include card-based e-payment products. This was followed by the introduction of pay card in 1997. By 1999, card based payment products assumed an open platform with authorization from the CBN for the floating of two card service companies by a consortium of over 20 banks. In 2003, the CBN, in collaboration with the Bankers Committee, launched the first major initiative to modernize the payment system, granting approval to a number of banks to introduce international money transfer products, telephone banking, and online banking via the internet on a limited scale. Today, virtually all banks have introduced electronic funds transfers (EFT), debit and credit cards, internet banking, mobile banking and deployed Automated Teller Machines (ATM). The Nigerian payments system has further evolved with the introduction of the Payments System Vision 2020, launched in 2007 to facilitate a wider range of electronic payment methods such as POS terminals, facilitated by a wider range of service providers.

By 2007, the payment system had transitioned from being cash-heavy to a bulk payer status, which is a combination of cash, and some electronic instruments, mainly Automated Teller Machine (ATM). Post 2007, Nigeria continues to embark on measures to increase the use of electronic channels in its journey to a cash lite society with efficient payment systems. In 2011, the CBN launched a cash policy to modernise Nigeria's payment system (in line with the country's vision 2020), reduce the cost of banking, foster economic growth and improve the effectiveness of monetary policy. The cash policy is to reduce the rate at which cash is physically moved in the country. The cashless economy, as explained by NIBSS (2015) is aimed at reducing and not eliminating the stock of paper currency circulating within the economy. It does not refer to an outright absence of cash transactions in the economic setting but one in which the amount of cash-based transactions are kept to the barest minimum.

Several electronic payment systems such as payment cards (smart card) and paper-based instrument that were introduced by the CBN gave rise to significant growth in the use of electronic payment systems. The CBN strategic plan on e-payment system is to ensure that a larger proportion of currency in circulation is captured within the banking system, thereby enhancing the efficacy of monetary policy operations and economic stabilisation measures. E-payment initiatives such as the establishment of switching companies that facilitate interconnectivity, introduction of payment instruments such as Automated Teller Machine (ATM), web transaction, e-money products such as credit and debit cards and Point of Sale (POS) have drastically helped reduce the volume of cash transactions and the flow of cash in the Nigeria economy. Electronic payment systems that have been introduced in Nigeria are Automated Teller Machine (ATM), web transaction, electronic money products (such as credit

and debit cards), and POS. These e-payment systems provide a better audit trail than transactions which involve physical cash and thus reduce the amount of currency in circulation (Adeoti & Oshotimehin, 2012).

POS is one of the e-payment systems introduced in Nigeria to further the course of cashless policy. POS is an electronic payment device which enables individuals to make purchases with electronic cards. POS accepts ATM cards for payment of goods and services. This card stores account information on microchips. The microchip contains a purse in which monetary value is held electronically. The card can be used to make purchase of goods and services online, in supermarkets, shopping malls, and other market places. POS allows cardholders to have a real-time online access to funds and information in their bank account through debit or cash cards. POS deployment is projected to hit 350,000 in 2014 from 120,191 in 2013, reflecting growing acceptance of POS and electronic card payments. This is because between 2012 and 2014, it was found that the volume of transactions conducted via POS increased by 183% compound annual growth rate (CAGR) suggesting significant adoption and usage of POS (NIBSS, 2015).

4. Theoretical background, research framework and hypotheses

This study adopted the theoretical extension of Technology Acceptance Model (TAM2) introduced by Venkatesh and Davis (2000). Original TAM was developed by Davis (1986) to explain why users adopt or reject an innovative information system. It offers a powerful explanation for user acceptance and usage bahaviour of information technology. TAM theorises that an individual's behavioral intention to adopt a system is determined by two beliefs, perceived usefulness (PU) and perceived ease of use (PEOU). TAM2 extended the constructs of TAM and included additional determinants of TAM's PU and usage intention constructs. This model helps to understand how the effects of these determinants change with increasing user experience over time with the target system. TAM2 incorporates additional theoretical constructs spanning social influence processes and cognitive instrumental processes and explained that the additional constructs - social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality and result demonstrability) significantly influenced user acceptance. TAM2 performed well in both voluntary and mandatory environments. Empirical studies revealed that TAM2 consistently explains 34% - 52% of the variance in usage intentions and behavior (Venkatesh & Davis, 2000).

The research framework is depicted in Figure 1.
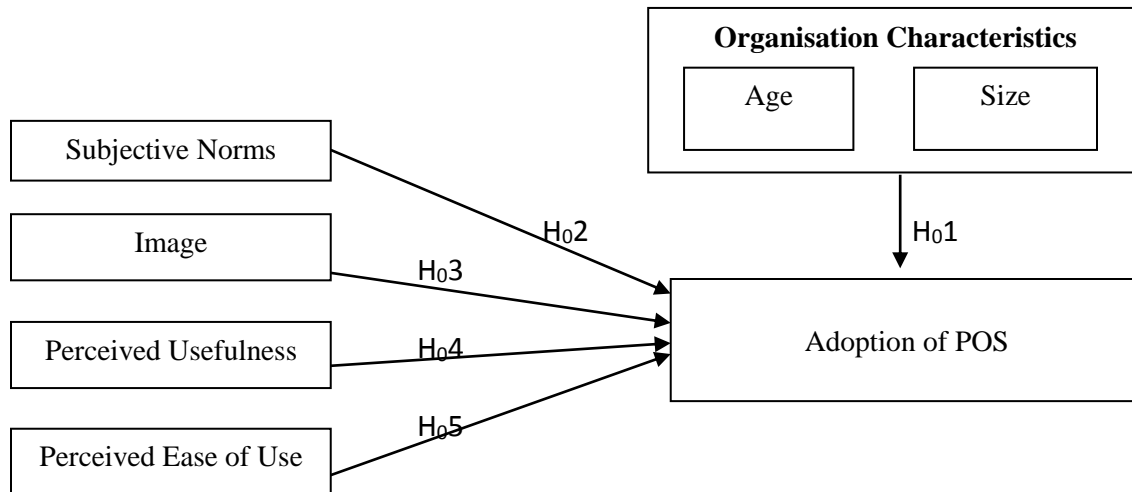
Figure 1: Conceptual Model (Modified TAM2)

The research framework consists of constructs adapted from TAM2. The framework depicts that characteristics of the business organisations, subjective norms (SNs), image, PU and PEOU are factors that could influence the adoption of POS.

4.1 Business Organisation Characteristics

The research conceptual framework hypothesises that the characteristics of the business organisations, such as the size of the organisation, and year of establishment, could influence the adoption of POS. According to Bankole (2010), the age and size of an enterprise are determining variables in adoption decision. The age in this case means the number of years of establishment of the business organisation, while the size is whether the organisation is small, medium or large scale. It is therefore hypothesised that:

> There is significant relationship between the characteristics of business organisation in Lagos and Ibadan metropolis and adoption of POS.

4.2 Subjective Norms (SNs)

Subjective norm is a person's perception that most people who are important to him think he should or should not perform the behaviour in question (Fishbein & Ajzen, 1975, p. 302). These norms represent the expectations of other people regarding the performance of a particular behaviour. Thus SNs represent how a person is influenced by the perception of his/her behaviour by reference people such as family, friends, colleagues, business counterparts, competitors, etc. Fishbein and Ajzen explained that intention originates from two determining factors; the first factor is personal in nature and is reflected in one's attitude, while the second factor is SNs, which reflects social influence. There is a significant body of theoretical and empirical evidence regarding the importance of the role of SNs on technology use, directly or indirectly (Bhatti, 2007; Haghighi, Rahrovy & Vaezi, 2012; Hsu & Lu, 2004; Kim, Shin & Kim, 2011; Taylor & Todd, 1995; Venkatesh & Davis, 2000). The research framework therefore

suggests that SNs could influence adoption of POS by business organisations in Lagos and Ibadan metropolis. It is therefore hypothesised that:

> There is significant relationship between subjective norm of business organisations in Lagos and Ibadan metropolis and adoption of POS.

4.3 Image

Image can be defined as the degree to which the use of an innovation is perceived to enhance one's image or status in one's social system (Rogers, 1983; Moore and Benbasat (1991). Polat (2011, p.1) defined image as "the vision, picture, or impression that is formed in individuals' mind, based on the data and information they gather through their interactions with the elements of an organization." Organisational image is the overall evaluation of people's views regarding an organization or system. Kazoleas, Kim & Moffitt (2001) described image of an organisation as the sum of emotions, beliefs and thoughts toward the organisation and this image can be interpreted as positive, negative and neutral. It is the overall impression left in the mind of customers as a result of accumulative feelings, ideas, attitudes and experiences with the business, stored in memory and transformed into a positive or negative meaning, retrieved to reconstruct image and recalled when the name of the business is heard or brought to ones' mind (Bravo, Montaner & Pina, 2009; Dowling, 1988; Kazoleas et al., 2001). Image is considered to be a critical factor in the overall evaluation of any organisation (Kandampully & Hu, 2007). Positive image can be considered as competitive advantage for organization which differentiates the organisation from its competitors (Bravo, Montaner & Pina, 2010). In building image, the business create and spread a specific message that constitutes their strategic intent, mission, vision, goals and identity that reflects their core values that they cherish (Bravo et al., 2009; Van Riel & Balmer, 1997). The desire to gain social status may be one of the most important motivations to adopt an innovation. Many adopt technology because of the belief that these technologies may help create, alter, or preserve a positive image and social status for themselves within their social setting (Teo and Pok, 2003).

Image in the context of this study is defined as the degree to which adopting POS increases the adopter's social status and prestige in the society. Adopting a technology could create an impression in the mind of customers of a business and the impression could be positive or negative. Venkatesh and Davis (2000) established that image significantly influenced user acceptance. Teo and Pok (2003) found that image influence adoption intentions. Therefore, this study included image as one of the factors that could influence adoption of POS in Lagos and Ibadan metropolis, which means that the perception of the organisations about their image, status and prestige among their customers could have some influence on their adoption of POS. Thus it is hypothesised that:

> There is significant relationship between image of the business organisations in Lagos and Ibadan metropolis and adoption of POS.

4.4 Perceived Usefulness (PU)

PU is a person's subjective perception of the usefulness of a system. It is defined as 'the degree to which a person believes that using a particular technology would enhance his or her job performance (Davis, 1989). PU can be approached from the perspective that using the technology would improve the way a user could complete a given task. This implies that people tend to adopt or use a technology to the extent they believe it will help them perform their job better. Many studies in information system have provided evidence of the significant effect of PU on adoption and use (Luarn & Lin, 2005; Moon & Kim, 2001; Su, Tsai & Hsu, 2013). This study therefore hypothesises that:

> There is significant relationship between PU and adoption of POS by business organisations in Lagos and Ibadan metropolis.

4.5 Perceived ease of use (PEOU)

Davis (1989) defined PEOU as the degree to which an individual believes that using a particular system would be free from physical and mental efforts. It follows that such system should be easy to use without stress. PEOU describes individual's perception of how easy the innovation is to learn and to use (Venkatesh & Davis, 2000). In the case of POS, this may include ease of navigation, booting of system, and response time of the machine among others. Ease of use of a system could be a motivation for others to adopt the technology. All other things being equal, a technology that is perceived to be easier to use than another is more likely to be more accepted by users, and using it can increase job performance. This implies that ease of use of POS could determine the adoption of the technology. Davis, Bagozzi and Warshaw (1989) posit that there exists a direct effect of PEOU on PU. This study therefore hypothesises that:

> There is significant relationship between PEOU and adoption of POS by business organisations in Lagos and Ibadan metropolis.

5. Research Methodology

The locations for this research are Lagos and Ibadan metropolis. The locations represent two of the most urbanised zones in Nigeria where electronic payment system is mostly being used. Lagos is Nigeria's financial, commercial and industrial nerve centre. Moreover, cashless policy was first implemented in Lagos state. Ibadan was selected due to her population with a good number of entrepreneurs. Ibadan is also known for her high commercial activities. Survey research design was employed for the study. The population of the study comprised of commercial businesses that make use of POS. The organisations considered include supermarkets, hotels, gas stations, restaurants, schools, companies and pharmaceutical stores, among others. Non-probabilistic sampling method was adopted to select samples for this study.

Multistage sampling technique was adopted. The businesses were first stratified based on the business groups adopted from the groupings done by Lagos and Ibadan Chambers of Commerce and Industry. Thereafter, convenience sampling was used to select twenty (20) businesses from each business category because the sampling frame could not be determined as the record of all businesses using POS in the locations of study was not gotten. However, the Lagos and

Ibadan Chambers of Commerce and Industry provided a list of the categories of business available. These are Medicine and Pharmaceuticals, Oil and Gas, Electronics and Electricals, Book Publishing and Bookstore, Agriculture and Agro-allied, Education, Telecommunication, Computer and Technology, Fashion and Lifestyle, Event and Entertainment, and Supermarket. Ten business organisations were conveniently selected from each of the categories from both locations giving a sample size of two hundred (200).

The main research instruments used to obtain data is questionnaire. The questionnaire was structured into 5 sections: (a) Demographic Characteristics (b) SNs (c) Image (d) PEOU of POS (e) PU of POS. The questionnaire was constructed and scrutinised with the help of professionals in the fields of research and information science. Some constructs of the questionnaire were adapted from previous studies in the area of electronic payment adoption, and modified to suit this study. Face and content validity were also carried out in conjunction with some researchers. A pre-test was carried out in order to validate the items under each variable. The pre-test was carried out using conveniently sampled 20 businesses in Ibadan metropolis that did not fall within the sample size of the actual study. The result of the reliability test is shown in the Table 1. The overall Cronbach Alpha is 0.80.

Table 1:   **The reliability result**

Constructs	Cronbach Alpha	Number of Items
SNs	0.96	4
Image	0.73	4
PEOU	0.74	7
PU	0.64	6

In order to ensure right ethics in the field of information science, prior informed consents were solicited from the business owner or manager of the business. The researcher first explained the intent of the research study and what it is meant for. Given further permission, the researcher proceeded to embark on the questionnaire administering processes. The respondents were given the free will to either participate or not participate in the study. 200 copies of questionnaire were administered to the owner or manager of each organisation. 196 copies were retrieved, giving a return rate of 98%. However 194 copies were considered useful for data analysis. Regression and Spearman (rho) correlation analysis were used to analyse the data.

## 6. Data analysis and results

6.1 Characteristics of Respondents

Table 2 presents the distribution of respondents by business categories.

Table 2: Distribution of Respondents by Business Categories

Category	Frequency	Percent
Medicine and Pharmaceuticals	20	10.3
Oil and Gas	20	10.3
Electronics and Electricals	20	10.3
Book Publishing & Bookstore	20	10.3
Agriculture & Agro-allied	20	10.3
Education	20	10.3
Telecommunications, Computer and Technology	18	9.3
Fashion and Lifestyle	20	10.3
Event and Entertainment	16	8.2
Supermarket	20	10.3
Total	**194**	**100.0**

Table 2 reveals that 10.3% of businesses in the category of medicine and pharmaceuticals, oil and gas, electronics and electrical, book publishing and bookstore, agriculture and agro-allied, education, fashion and lifestyle, as well as supermarket participated in the study. However, 9.3% were from the telecommunications, computer and technology sector and 8.2% from the event and entertainment sector.

Figure 2 presents the distribution of the organisation by the number of employees
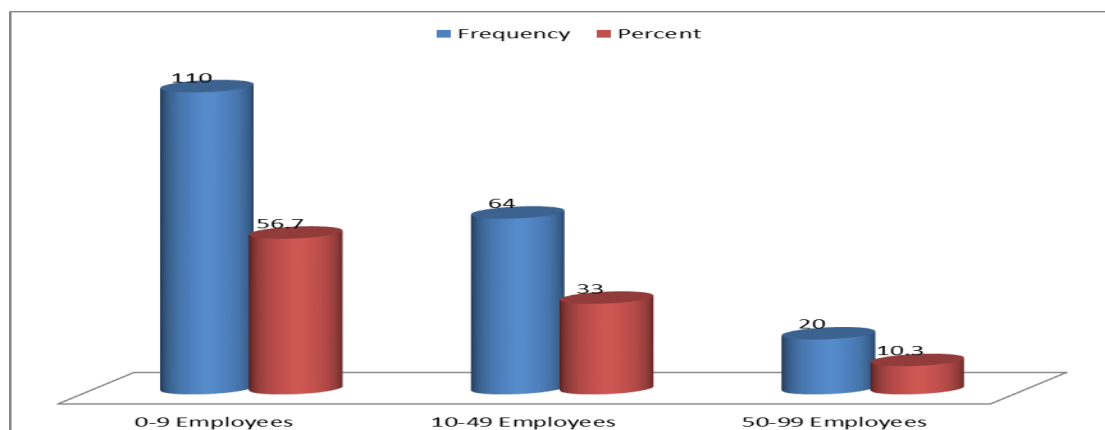
Fig. 2: Distribution of the Organisations by Number of Employees
Figure 2 reveals that business outfits with employees ranging from 0-9 accounted for the largest proportion at 56.7%. Organisations that had 10-49 employees followed next with a contribution of 33%, while those with employees in the range of 50-99 accounted for the least contribution of 10.3%.

Fig. 3 shows the distribution of the organisations by years of existence.
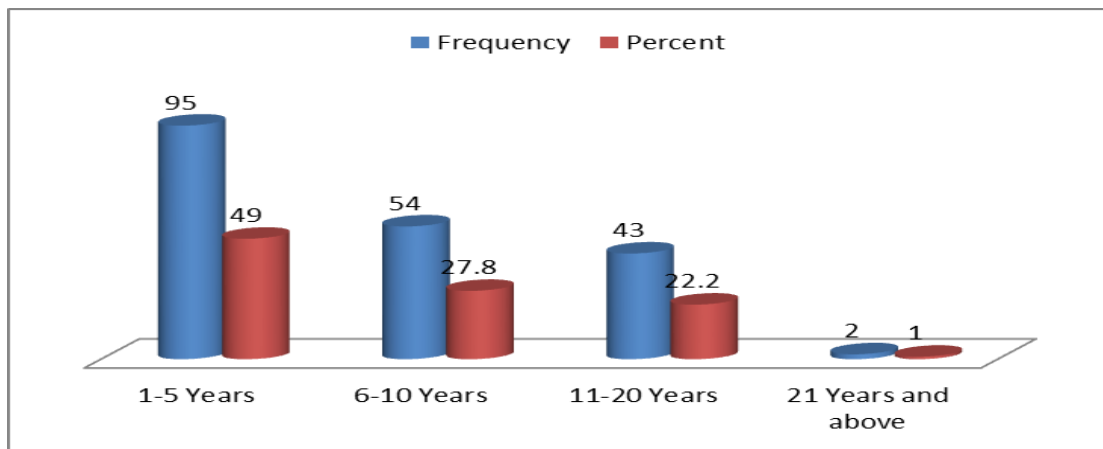
Fig. 3: Distribution of Business Outfits by Years of Existence

Figure 3 shows that organisation that have existed for between 1-5years accounted for the largest proportion of the respondents (49%), followed by those that have existed for 6-10 years (27.8%). Those that have been in existence for 11-20 years are 22.2%, while only 1% has existed for 21 years and above. This is indicative of the fact that the largest proportion of the businesses was established in the era of technological advancement of which POS is one.

Table 3 reveals that all the respondents have adopted and using POS.

Table 3: Distribution of Respondents on POS Use

Do you use POS for transactions in your Business?	Frequency	Percent
Yes	192	99.0
No	0	0
Missing value	2	1.0
Total	**194**	**100.0**

6.2 Test of Hypotheses

The study set the significance level for all hypotheses to be a pre-set value of 0.05. All hypotheses stated were tested in null form, posing the assumption that a significant relationship does not exist between the independent and dependent variables. The hypotheses in the alternative form assume that a significant relationship exists between the concerned variables. If *p* value is less than or equal to 0.05, the alternative hypotheses will not be rejected whereas the null hypotheses will be rejected and vice-versa.

Hypothesis 1: There is no significant relationship between the characteristics of business organisation in Lagos and Ibadan metropolis and adoption of POS.

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The demographic factors of adopters are the size and age of the organisation. The size of an organisation is measured by the number of employees in the organisation. The age of an organisation is determined by the year of establishment. The relationship between demographic factors of adopters and adoption of POS was tested using linear regression analysis. Further analysis was also carried out to test the variables singly using correlation. Tables 4 and 5 display the results of the analyses.

Table 4: Regression Table of Relationship between Characteristics of the Business Organisations (combined) and Adoption of POS

R	0.143				
R Square	0.020				
Adjusted R Square	0.010				
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	146.568	2	73.284	1.967	0.143
Residual	7039.745	189	37.247		
Total	**7186.312**	**191**			

a Predictors: (Constant) Size and Age of organisation
b Dependent Variable: Adoption of POS

Table 4 reveals that there is a small and positive relationship (R=0.143) between demographic factors (combined) of organisations and adoption of POS among business organisations in Lagos and Ibadan. The p value (0.143 > 0.05) however reveals that this relationship is not significant. Further analysis of the results shows that only 1.0% (Adj. R^2 = 0.010) of the variance in adoption of POS was accounted for by the demographic factors of organisations. Further analysis to establish the influence of each of the variables was done using Spearman correlation test. The results as presented in Table 5 establish that age and size of the organisations have no significant relationship with adoption of POS (r = -0.44, p> 0.05; r = -0.62, p> 0.05). Therefore research hypothesis 1 is not rejected.

Hypotheses 2 to 5 were tested using the Spearman correlation test.

Hypothesis 2: There is no significant relationship between SNs of business organisations in Lagos and Ibadan metropolis and adoption of POS.

Table 5: Spearman Correlation Table of Relationship between the variables and POS Adoption

			Adoption of POS
Spearman's rho (R)	Age	Correlation Coefficient	-.044
		Sig. (2-tailed)	.547
		N	192
	Size	Correlation Coefficient	-.062
		Sig. (2-tailed)	.392
		N	192
	SN	Correlation Coefficient	.394
		Sig. (2-tailed)	.000
		N	184
	Image	Correlation Coefficient	-.170
		Sig. (2-tailed)	.818
		N	190
	PU	Correlation Coefficient	.124
		Sig. (2-tailed)	.086
		N	192
	PEOU	Correlation Coefficient	.160
		Sig. (2-tailed)	.031
		N	182

Table 5 displays the result of the test of relationship between SNs of adopters and adoption of POS. The table reveals that there is a moderate and positive relationship between SNs and adoption of POS among business organisations in Lagos and Ibadan. With an R value of .394, it is confirmed that there is a positive relationship between the two variables and the p value of .000 which is less than 0.05 indicates that this relationship is significant (r = .394, p> 0.05). Therefore, hypothesis 2 is rejected which means that there is significant relationship between SNs of the organisations and adoption of POS.

Hypothesis 3: There is no significant relationship between image of the business organisations in Lagos and Ibadan metropolis and adoption of POS.

Table 5 also shows the result of the analysis of the test of hypothesis 3. The results reveals no significant relationship between image and adoption of POS among the business organisations in Lagos and Ibadan metropolis (r = -.170, p> 0.05). Therefore null hypothesis 3 is not rejected.

Hypothesis 4: There is no significant relationship between PU and adoption of POS by business organisations in Lagos and Ibadan metropolis.

Table 5 presents the result of the analysis of the relationship between PU and adoption of POS. it was found that there is a small and positive relationship *(*R-value= .124*)* between PU and adoption of POS among the business organisations in Lagos and Ibadan. The P value [p= .086>0.05 (2-tailed)] however reveals that this relationship is not significant. Therefore null hypothesis 4 is not rejected. It is however important to stress that notwithstanding that the hypothesis is not rejected, the positive relationship between PU and adoption of POS implies that with improved perception of usefulness, the possibility of using the POS technology will be enhanced.

Hypothesis 5: There is no significant relationship between PEOU and adoption of POS by business organisations in Lagos and Ibadan metropolis.

Table 5 displays the result of the analysis of the relationship between PEOU and adoption of POS. The finding reveals that there is a small positive relationship between PEOU and adoption of POS among business organisations in Lagos and Ibadan. The R value (.160) indicates a small positive relationship between the two variables and the p value [.031<0.05 (2-tailed] reveals that this relationship is significant. This implies that with increased perception on the ease of use of POS, the possibility of adoption of the technology will be improved among the respondents. Therefore, hypothesis 5 is rejected.

6.3 Summary of Findings

The results of the test of hypotheses are summarised in table 6.

Table 6: Summary of test of Hypotheses

	Null Hypotheses (H_0)	Standard Coefficients	Sig.	Decision on the Null Hypotheses
1	There is no significant relationship between the characteristics of business organisation in Lagos and Ibadan metropolis and adoption of POS	.143**	.143	Not Rejected
2	There is no significant relationship between SNs of business organisations in Lagos and Ibadan metropolis and adoption of POS	.394**	.000	Rejected
3	There is no significant relationship between image of the business organisations in Lagos and Ibadan metropolis and adoption of POS	-.170**	.818	Not Rejected
4	There is no significant relationship between PU and adoption of POS by business organisations in Lagos and Ibadan metropolis	.124**	.086	Not Rejected
5	There is no significant relationship between PEOU and adoption of POS by business organisations in Lagos and Ibadan metropolis	.160**	.031	Rejected

7. Discussion

Finding from this study reveal that there is no significant relationship between demographic factors of business organisations in Lagos and Ibadan metropolis and adoption of POS when the variables were combined and when tested separately. These results were supported by past researchers (Adeoti & Oshotimehin, 2012; Mann, 2011) which found no significant relationship between demographic characteristics and use of POS and electronic payment instruments. Bankole (2010) got conflicting results; age of Small and Medium scale Enterprises (SMEs) was found to have no significant relationship with adoption of e-business, whereas the size of the SMEs had significant relationship with adoption of e-business. These findings implicitly reveal that adoption of POS in an organisation may not significantly relate to the number of years the organisation has been in existence or to the number of staff the organisations has. Moreover, POS is regarded as a new innovation fostered by the introduction of cashless policy newly adopted by the Nigerian economy. Therefore, adoption of POS may not be determined by the age of an organisation. Both long existed and newly established organisations may adopt POS for business transactions based on the cashless policy. The size of the organisation was not also found to have significant relationship with adoption among the organisation. The reason that can be adduced to this could be due to the fact that all business organisations engage in the exchange of cash for goods and services irrespective of whether an organisation is small or big. In other words, POS can be adopted by both small and large organisation as long as the organisation does business transaction that involves payment of cash.

The results show a moderate and positive significant relationship between SNs and adoption of POS among business organisations in Lagos and Ibadan metropolis. This finding is related to past researches (Bhatti, 2007; Haghighi et al., 2012; Hsu & Lu, 2004; Ismail & Razak, 2011; Karahanna & Straub, 1999; Taylor & Todd, 1995; Venkatesh & Davis, 2000) which found that SN is significant to adoption of various technologies. For example, Lucas and Spitler (1999) reported that "organizational variables such as social norms and the nature of the job are more important in predicting the use of technology than are users' perceptions of the technology" (p. 304). Schepers and Wetzels (2007) conducted a quantitative meta-analysis of previous research on the technology acceptance model (TAM) in an attempt to make well-grounded statements on the role of SNs and found a significant influence of SNs on behavioral intention to use. Haghighi et al. (2012) found that SNs had a positive and significant impact on intention to use cash cards by Iranian customers. However, our findings deviate from the findings of (Attuquayefio, Achampong and Aryeetey, 2014; Chau & Hu, 2002; Davis et al., 1989; Dishaw & Strong, 1999; Mathieson, 1991) which found no significant relationship between SNs and intention, adoption and use of various technologies. The implication of these findings is that the customers or clients of business organisations could influence their decision to adopt a technology, POS inclusive. If an organisation perceives that their customers desire the use of POS for business transactions, such organisation could be motivated to adopt the technology. So also other organisations or competitors could also influenced the decision of an organisation to adopt POS. If an organisation sees that other organisations or business colleagues had adopted POS, such organisation could be sufficiently motivated to also adopt the technology so as not to loose their customers/clients to their competitors.

Image in this study is seen as the degree to which the use of POS is perceived by the business organisations to enhance their status and add prestige to their organisations. The findings in this study reveal that there is no significant relationship between image of the business organisations and adoption of POS. The result of this finding is supported by past researches (Agarwal & Prasad, 1997; Jebeile & Reeve, 2003; Moore & Benbasat, 1991) which found no significant relationship between image and adoption and use of technology. For example, Jebeile and Reeve (2003) found that image did not have significant relationship with future use of the World Wide Web. The results of this study however deviate from the findings of Karahanna, Straub and Chervany (1999); Moore and Benbasat (1991); Teo and Pok (2003); Venkatesh and Davis (2000) which found image to significantly influenced users' adoption and acceptance of various technologies. Explanation for the insignificant result of this hypothesis is that the use of POS may not be influenced by organisations image as organisations with low and high profile need POS for the same purpose (to receive payment for their goods and services), which is actually the essence of being in business.

This study reveals that there is no significant relationship between PU and adoption of POS by business organisations in Lagos and Ibadan. Although numerous empirical studies have provided support for the proposition that PU is the primary predictor of information technology usage (Agarwal & Prasad, 1999; Davis, 1989; Hsu & Lu, 2004; Luarn & Lin, 2005; Moon & Kim,

2001; Su et al., 2013; Venkatesh & Davis, 2000), our findings supported the studies of Attuquayefio et al. (2014); Bhatti (2007); Davis et al. (1989); Lucas and Spitler (1999); Venkatesh and Morris (2000) which equally found no significant relationship between PU and adoption and use of various technologies. Possible explanation for this result is that judgment about a system's usefulness is affected by individual's cognitive matching of their job goals with the consequences of system use. The usefulness of POS to these organisations would be measured via the output performance of the technology in carrying out business transactions.

This study further found that there is a moderate and positive significant relationship between PEOU and adoption of POS among the business organisations in Lagos and Ibadan. This finding is in accord with many empirical studies (Adams, Nelson & Todd, 1992; Adeoti & Oshotimehin, 2011; Agarwal & Prasad, 1997; Bhatti, 2007; Davis, 1989; Gefen & Straub, 1997; Luarn & Lin, 2005; Su et al., 2013; Venkatesh & Davis, 2000; Venkatesh & Morris, 2000) which equally found PEOU to predict intention, adoption and use of many technologies directly or indirectly. Organisations would be motivated to adopt a technology such as POS due to its ease of use. The implication of this result is that the business organisations perceive that POS was easier to use when compared to the conventional method of collecting cash. The use of POS is simple, easy to use, clear and understandable and does not require a lot of mental effort. This could be the motivation for the organisations to have adopted the technology.

8. Conclusion, contribution and areas for further research

The importance of POS cannot be overlooked because it is one of the electronic means of transaction. This study has been able to establish the influence of demographic factors, PU, PEOU, SNs, and image on adoption of POS by business organisations in Lagos and Ibadan metropolis. This study has contributed to knowledge by providing relevant information that could assist operators of POS and stakeholders in the economic sector to be well informed about the factors that could be influencing the adoption of POS. The study has also provided benchmark for further studies by proposing a model which can be used to study adoption of electronic commerce. This study could serve as a motivation for banks to intensify efforts to deploy more POS to organisations in the locations of study as well as other parts of the country to further promote the adoption of POS among organisations that are yet to adopt. As a critical factor for success, the necessary infrastructure, such as internet access, that would make the cash-less policy to work in Nigeria should be made available.

The study has some limitations in that the population was limited to a geographical area of the country (south-west), therefore, the findings may not be generalised to the entire country. Study from other parts of the country may reveal a different result due to geographical differences and nature of businesses in other parts of the country. The methodology used, being heavily quantitative has its limitations. It provides a broad-based perspective of the questions under investigation, but may not be the best approach to obtaining a detailed understanding of these questions. Additional studies that use qualitative approach may contribute to achieving a deeper understanding. The model adapted for this study was

developed from another country. This may not perfectly describe the phenomenon and situation in Nigeria, especially with the digital divide between, the developed and developing nations of the world. These limitations notwithstanding, the findings of this research have contributed to literature in the area of technology and society. Future studies can be carried out to establish the factors influencing non usage among non-adopters. Further studies can also do a comparative study of adoption of POS among different business organisations.

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