INFORMATION SYSTEMS AND ELECTRONIC CONSUMER PROTECTION IN NIGERIAN BANKING INDUSTRY

Henry N. Ozuru (PhD)[1*] and John E. Chikwe (Ph.D)[2]
University of Port Harcourt, Choba, Rivers State, Nigeria

[1] Department of Marketing
[2] Department of Management
[*] Author for correspondence: Mobile: +234-803-668-5054;
E-mail: Oscap2003@yahoo.co.uk

Abstract

The study empirically investigated information systems (IS) and electronic consumer (e-consumer) protection in Nigerian banking industry to see if information system technology (IST) provides adequate protection for e-consumers in Nigeria banking industry. Documentary and survey research methods were used. Data were drawn from 200 students from five universities in South-South geo-political zone of Nigeria. Multiple regression was used for data analysis. Results showed a significant relationship between independent and dependent variables, a positive relationship between database and information security, positive relationship between database and web availability. The study recommended, amongst others, that banks should engage the activities of behavioural science researchers to develop and constantly verify theories that explain human or organizational behaviour, deploy more ATM machines at various points beside bank premises to limit waiting lines for cash transactions, maintain principles of business continuity, and innovative capability for new products/services.

Keywords: *Information system, E-consumer, Privacy, Trust, Security, Protection, Waiting line, ATM, Innovative capability.*

Introduction

The word "information" originated from the Latin word *infomare* meaning "to put into form", in that perspective and at its rudimental level, information can be used to structure and simplify what was previously complex. By information we mean data that have been shaped into a form that is meaningful and useful to human beings. Data, in contrast, are streams of raw facts representing events occurring in organizations or by physical environments before they have been organized and arranged into a form that people can understand and use. As such, the banking industry in Nigeria should constantly recognize and capitalize on this inherent property of information in order to create tremendous values in doing business.

A *system* is a group of interrelated components working together toward a common goal by accepting inputs and producing outputs in an organized transformation process, with its basic interacting components as input, processing an output (O'Brien, 2003). A business organization (such as bank) is a system where economic resources are transformed by various business processes into goods and services. On this premise, the banking industries in Nigeria through its system accept raw materials as input and

produces finished goods/services as output.

Information system (IS) is an integrated set of computer system for collecting, filling, storing and processing data as well as delivering information, knowledge and digital products in an organization. IS is a system that accepts resources (data) as input and processes them into products (information) as output. For a successful business operation, business firms and organizations (e.g. banks in Nigeria) rely on information system to carry out and manage their financial operations, interact with their customers and suppliers and compete in the market place. Corporations apply information systems to reach potential and existing customers with targeted messages transmitted through web, processing of financial accounts, and management of human resources (O'Brien, 2003).

Similarly, governments in Nigeria deploy information systems in order to provide services that are cost-effective to her citizens. Further, with the help of information system, digital goods such as electronic books and software, online services such as e-payment, home banking, telephone banking, retail auctions and social networking are delivered to customers through information systems. Also, individuals rely on information (generally internet-based) for conducting much of their personal lives for banking, shopping, entertainment, study and socializing.

Information systems today have provided more human activities, facilitated the speed of daily activities, and changed the structure and organizational mix, the kind of products as well as the nature of work. Alter (2013) posited that IS is a special type of work system in which humans or machines perform by using resources in order to produce specific products/services for customers. Or, information system (IS) is a work system whose activities are devoted to processing (capturing, transmitting, storing, retrieving, manipulating and displaying information). On this premise, information systems inter-relate with *data systems* on the one hand and activity system on the other.

Research Problem

In spite of the convenience and dependence on information system's application in Nigerian banking industry, e-consumers of the banks' products/services are still leery and worried how the information provided to the banks are protected and secured. Therefore, it is pertinent to investigate the capability of the banks' security system in protecting e-consumers' information provided to the banks.

Theoretical Foundation

The confidentiality of correspondence has in the past been of concern to groups, such as the military commanders, diplomats as well as politicians, and as a result, they provide some mechanism in order to protect this confidentiality and also have some means of detecting some sort of tampering. For instance, Julius Caesar is credited with developing the *Caesar Cipher* in 50 B.C. for protecting his secrete messages from being tampered with and read should any of his messages get into wrong hands. But, for the most part, protection was achieved through the application of procedural handling controls. Sensitive information was marked to show that it should be protected and transported by individuals who are trusted, guarded and stored in a secure environment or strong box.

In 1653, as postal services expanded, the government developed official organizations to intercept, decipher, read and reseal letters. Further, in the mid 15^{th} century, Johaunes Gutenberg invented the printing press. In

the 17th century, Blaise Pascal invented the mechanical calculator. These inventions transformed to a profound revolution in the ability to record, process, and disseminate information and knowledge.

Amongst the first computers used for such information process was the UNIVAC 1, installed at the U.S. Bureau of the census in 1951 for administrative use and at the General Electric in 1954 for commercial use (Laudon and Laudon, 2007). Beginning in the late 1970s, personal computers brought some of the advantages of information systems to small businesses and individuals. Early in the same decade, the internet began its expansion as the global network of networks. In 1991, World Wide Web (www) invented by Tim Berners-Lee as a means of accessing the interlinked information stored in computers connected by the internet, was installed to become the principal service delivered on the network. The global penetration of the internet and the web has enabled access to information and other resources and facilitated the forming of relationships among people and organizations on an unprecedented scale. Also, with the presence of smartphones, tablets and other computer-based mobile devices, all of which are connected by wireless communication networks, information systems have been extended to support mobility as the natural human condition.

Further, the end of the 20th century and early years of 21st century came with rapid advancement in telecommunications, computing hardware and software, and data encryption. Finally, as necessities of doing business, firms invest in IS and technologies to drive these necessities. For instance, in Nigeria, the Automated Teller Machine (ATM) was initially introduced in 1989 by the defunct Societe Generale Bank of Nigeria (SGBN) followed by First Bank of Nigeria with (FirstCash card), United Bank for Africa (AnytimeMmoney card), and Diamond Bank (QuickCash card).

The banking industry in Nigeria no doubt has witnessed advancement in technology just like any other sector, the use of the ATM being one of them. With the adoption of self-service technology by the banks, ATMs have continued to service the general public as it offers convenience to customers and provide banking services well beyond the traditional services era, thus, eliminating the risk of loss of cash through theft or fire. Following the ATM, are telephone banking, home banking, online banking, virtual banking, mobile banking, electronic payment systems, e-signatory, etc. However, the provision of these services is generally laced with challenges to these banks that have deployed the information-based economy infrastructure (Ozuru and Kalu, 2013).

Study variables and research framework

In this study, information systems are the predictor variable with its dimension as database, and criterion variable is e-consumer protection in Nigerian banking Industry, with its measures as information security and web availability. The attributes to these variables are as follows.

Information System (IS)

Information systems are concerned with the process of obtaining, formatting, processing, manipulating and presentation of data in the form of information (Heizer and Render, 2001).

Database: This involves the gathering of associated computer files or tables containing related data. Databases clearly support the operations and management functions of an enterprise (Rainer, 2012).

Information security (infosec): is the practice of defending information from unauthorized access use, disclosure, disruption, modification, perusal, inspection, recording or destruction.

Web Availability: For any information system to serve its purpose, the information must be readily available when it is needed. Ensuring availability also involves preventing denial-of-service attacks (Beynon, 2009).

Based on the research variables, the study is expressed in the functional relationship in Figures 3.1 and 3.2.

ECP	=	f(ISYS)	1
ISYS	=	DB	2
E-CP	=	ISEC + WA	3

Where:

ECP	=	E-Consumer Protection
ISYS	=	Information System
DB	=	Database
ISEC	=	Information Security
WA	=	Web Availability

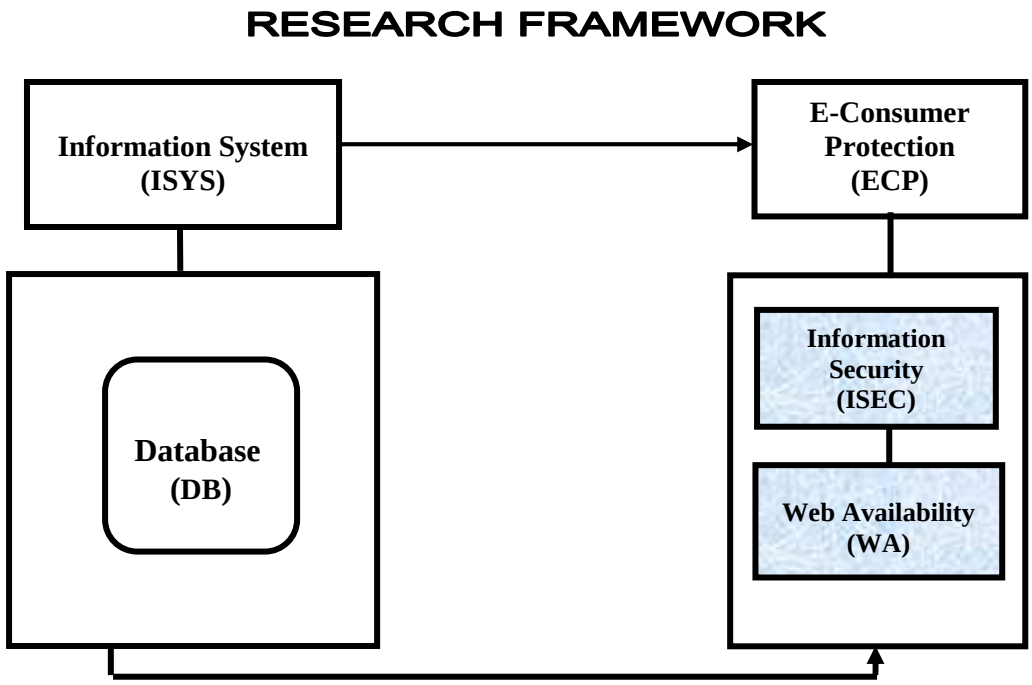

Fig. 3.1: Conceptual framework on IS and e-consumer protection in Nigeria banking industry.

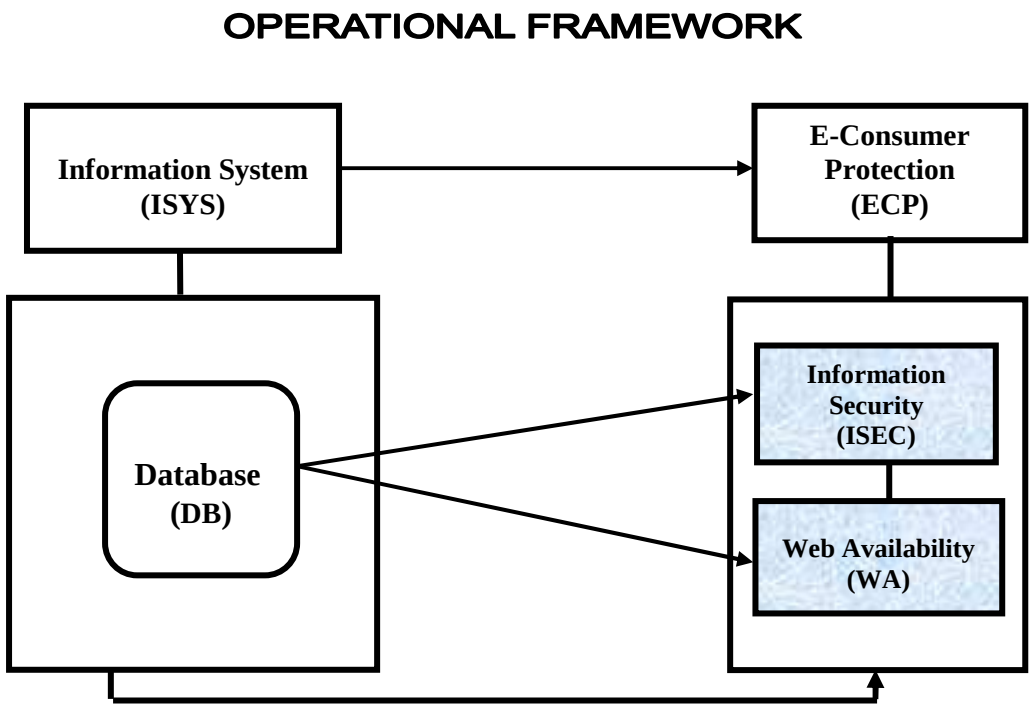

Fig. 3.2: Operationalization of IS and e-consumer protection in Nigerian banking industry.

Research Hypotheses

The following null hypotheses were formulated and tested:

H_{01}: There is no significant and positive relationship between database and information security in Nigerian banking industry.

H_{02}: There is no significant and positive relationship between database and web availability in Nigerian banking industry.

Review of Relevant Literature

Information System (IS) involves the handling of complementary networks of hardware and software that allows individuals and organizations such as Nigerian Banking industry to collect, filter, process, create and distribute data (Denning, 2007; Jessup, 2008). The specific aim is to support business operations, management and decision making in any business environment as well as controlling the performance of business processes (Kroenke, 2008). Alter (2006) asserted that information system is a special type of work system in which humans and or machines perform work using resources to produce specific products or services for customers (e-consumers). Alter further argued that, an MIS is a work system whose activities are devoted to processing (capturing, transmitting, storing, retrieving, manipulating and displaying information.

Components of Information Systems (ISs)

There are seven main components of information systems: computer hardware and software, telecommunications, databases and data warehouses, human resources and procedures.

Computer Hardware: In today's global village, both large and small firms, as well as several households own or lease computers. These are usually

microcomputers also called personal computers. The magnetic or solid-state storage disks, keyboards, input-output devices, and telecommunications gear constitute hardware of management information system. The use of this hardware with electric power in Nigeria banking industry and its environmental impact are some of the serious concerns to e-consumers in Nigeria.

Computer Software: Computer software falls into two main categories – system software as the principal system software used as operating system that manages the hardware, data and programme files, and other system resources and providing means for the user to control the computer, generally through a graphic user interface; and application software, which is a programme designed to handle special tasks for users (e.g. Word processing programmes).

Telecommunications: These are used to connect or network computer systems and transmit information. Connections here are achieved through wired or wireless media. Wired technologies include coaxial cable and fibire optics, while wireless technologies based mainly on the transmission of microwaves and radio waves, support mobile computing.

Database and Warehouses: Several information systems are primarily delivery vehicles for data stored in databases. A database is a collection of interrelated data (records) organized so that the individual records or groups of records can be retrieved to satisfy various criteria.

An example of databases are employed records, customer record and product catalogues. Data warehouse contain archival data collected overtime, which can be mined for information in order to develop and market new products/services, serve existing customers better or reach out to potential customers. Any e-consumer who has ever purchased something with a credit card with his or her bank in Nigeria either in person, by mail order, or over the web is included within such data collections.

Human Resources and Procedure: Qualified and skilled individuals are a vital component of any IS. Technical personnel include development and operations managers, business analysts, systems analysts and designers, database administrators, computer operators. In addition, all workers in an organization must be trained to utilized the capabilities of management information system. It is obvious that in Nigerian banking industry and other business enterprises that lack qualified and skilled personnel, such is one of the inhibitors in effectively developing broadband and bandwidth with high speed to efficiently serve the e-consumers in the banks in Nigeria. Also, procedures for using, operating and maintaining an information system are part of its documentation. For example, procedures need to be established to run bank customers (e-consumers) programme, including when to run it, who is authorized to run it, and who has access to the output.

Decision Support System (DSS): This support system provides a tool for top management and decision makers to explore data and make unplanned analysis to satisfy the needs of the customers (Schmid and Weber, 1998). This system is embedded with summarized data, as well as data that describe the individual buyers, individual transactions and individual products. The DSS allows non technical users of the organizations to explore data and ask unplanned questions, add large amounts of new information to the database very quickly, and complete data is large scales updates of data more rapidly. DSS is optimized to produce fast answers to broad questions (such as "what was the average potential bank

customer acquisition in Abuja last month?").

Information System (IS) Resources: An information system consists of five main resources that facilitate business transactions in organizations (Obrien and Marakas, 2010). The main resources are:

Personal: The personnel component is made up of Information Technology (IT) specialists, such as Database Administrator or Network Engineers as well as end-users, like data capture clerks.

Hardware: This is made up of all physical aspects of an information system ranging from computer parts to servers.

Software: Consists of systems software, application software and utility software.

Networks: Consists of communication media and network support.

Data: This consists of all the knowledge and databases in the information system.

Composition of Information Systems (IS)

Information systems are so essential in today's information based business economy such as Nigeria. Today, it is obvious that nearly all businesses - large and small, local, national and global use information systems to achieve their important business objectives like operational efficiency, customer and supplier relationships, better decision making and new products and services. These businesses need to know and understand how to use information systems and technologies to help solve problems and overcome challenges. Information systems are composed of people, organization, and technology elements (hardware, software, networks and data).

People: A business is only as good as those people who work there and run it. Information is as useless without skilled people to build and maintain them, and without people who can understand how to use the information system in a system to achieve business objectives.

Organization: Information system is an integral part of the organization structure, history and culture of the organization.

Technology: This involves computer hardware, software, data management technology, networks, etc. (Figure 3.3).

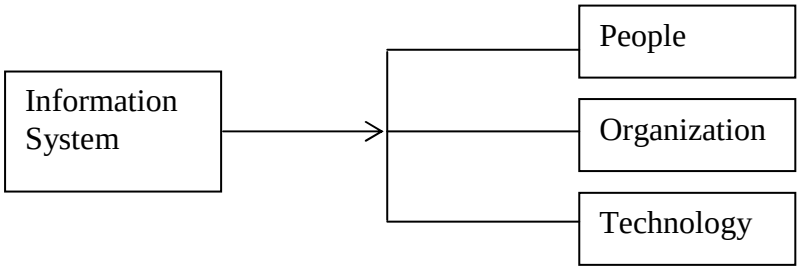

Fig. 3.3: Components of Information System

Different Types of Information System

Computer systems are built to achieve some tasks. As such, different systems are employed to perform different functions. A transaction processing system (TPS) takes charge of the processes of running the business. This may be a bank credit card approval system, a deposit entry system and a cash withdrawal system. Different types of information system invariably attract different types of business needs. Also, another thing that can cause difference is the different level of organization. The three types of Information System include:

Transaction Processing System: A transaction processing system takes care of as many transactions as possible that occur within and between an

organization. In the old economy (traditional), these transactions include paper transactions such as payroll, order entry, invoicing, receipt of checks, inventory, personal records, etc. In the new economy (digitized economy), these transactions are transferred from paper to computerized processing and storage as a computer-based transaction system. Many transactions processing today is based on electronic signals as a major vehicle for transmitting information. To achieve an effective electronic transferring of data into an electronic form, the banking industry must develop an automatic identification system (AIS) that provides the translation of data into electronic bits and bytes. The barcodes, radio frequencies, and optical characters on bank cheques are AIS which assists the banks to move data to electronic media (Heizer, 2001).

Decision Support System: An interactive information system that provides information, models, and data manipulation tools to help make decisions in an organization.

Management Information System (MIS): MIS is the process of gathering, formatting, manipulating and presenting data in the form of information such as sales report, company reports, accounting spreadsheet, etc. to managers of organizations as the need arises (Heizer 2001). Significantly, it provides information for managing an organization.

E-consumers and Information System (IS)

E-consumer's need and sophistication in purchases and decision making are rapidly changing today within the Information System (IS) environment. In Nigeria banking industry, traditional customers (older consumers) who have been experienced in using the old face-to-face banking system are quite inexperienced with the use of the new system. However, there are (new consumers) who are still quite inexperienced in the use of the new technology.

The e-consumers in Nigeria to some extent are becoming familiar with personal computing, surfing and using the internet and tend to be intolerant when they are unable to get immediate access to what ever they need. The banks must therefore constantly adopt user-friendly information system technologies to achieve their competitive position in the industry. Attitude of older consumers toward newer technologies are leery while the e-consumers are enthusiastic and on the go.

Since Nigeria has not fully embraced virtual banking, attention must be paid to both traditional customers (old consumers) and digital consumers- new consumers or e-consumers. As a result, the banks must create new technologies and become aware of the newer technologies and the enormous personal and organizational behavioural modifications they must make in order to use them effectively. The older consumers often bring their old purchasing habits to the new environment without understanding that it is new. On this premise, Nigeria banking industry in its application of computers to information handling problems, must therefore produce a need for a variety of effective security mechanisms to her consumers and remain competitive in a global market of information technology.

E-consumer and Information Protection in Nigeria Banking Industry

The words "protection", "privacy", and "security" "trust" are often used in line with information storing system, and are very vital to customers of the banks. Privacy is the degree to which personal information is not divulged to a third party without express permission from

the person who provided information (Ozuru and Kalu, 2013).

Protection: This term encompasses all the security techniques that control the access of executing programmes to stored information (csrc.nist.gov-retreived June, 2013). For instance, a protection technique may be labeling of computer-stored files with lists of authorized users. In like manner, the term authentication is used for those security techniques that verify the identity of a person or other external agent making a request of a computer system-demanding a password.

Bank customer privacy, security and protection have always been a significant issue in the banking industry, and as such most e-consumers are very concerned in giving out personal and credit card information online, and very concerned about someone being able to track where they go as they travel and do banking transactions online. Banks in Nigeria gather a great amount of confidential information about customers (e-consumers). This amassed form of information is collected, processed and stored on electronic computers and transmitted over networks to other computers. In the event, confidential information (such as customer's bank account number or personal identification number (PIN)) gets to the banks, it is their sole responsibility to protect all information, and any laxity or breach of security can lead to negative consequences. Therefore, protecting e-consumers confidential information in Nigeria banking industry is totally a business requirements of the banks, and in most cases are ethical and legal requirements of the bank.

Systems are at risk from fraud, user errors, accidents and natural disasters, as well as from sabotages and other malicious acts; and as such must be highly protected to retain customer. The objective of a secure system is to prevent all unauthorized use of information and that no gaps appear in the protection strategy, else customers will be worried and feel not protected. Hence, the banks must do all humanly possible to protect its customer's information.

Functional levels of information protection

Different types of designs have been proposed and mechanisms to implement for protecting information in computer systems. One reason for differences among protection schemes is their different functional properties- kinds of access control that can be expressed naturally and enforced. The functional properties for protection schemes:

Unprotected System: Some of the systems have no provision for preventing determined users from accessing to every piece of information stored in the system.

All-or-nothing system: These systems provide isolation of users, which are sometimes moderated by total sharing of some pieces of information. If only isolation is provided, the user of such a system might just as well be using his own personal computer as far as protection and sharing of information are concerned. E.g. Dart mouth time-sharing system (DTSS).

Controlled Sharing: Importantly, more complex machinery is required in controlling totally who may access each data item stored in the system. For instance, such a system might provide each file with a list of authorized users and allow an owner to distinguish several common patterns of use, such as reading, writing or executing the contents of the file as a programme, e.g. MIT-compatible time sharing system (CTSS).

User-Programmed Sharing Controls: In this instance, a user may want to

restrict access to a file in a way not provided in the standard facilities for controlling sharing. For instance, the user may want to permit access only on weekdays from 9.00am to 4.00pm, may be to permit access to only the average value of the data in a file. He may further wish to require that a file be modified only if two users agree. In this instance and in many likely cases, a general escape is to provide for a user-defined protected objects and systems. A protected subsystem is a collection of programmes and data with the property that only the programmes of the subsystem have direct access to the data (protected objects) e.g. Honey well's multics, University of California's CAL system etc.

Putting Strings on Information: This process have the capability of maintaining control over the user of the information even after it has been released to the user. For instance, a printed label on classified military information regarding an account declaring a document to be "Top secret" is an example of a constant on information after its release to a person authorized to receive it.

Finally, the usefulness of a set of protection mechanisms depends upon the ability of a system to prevent security violations.

Benefits of Information Systems

Workplace: In the Workplace, Information Systems benefit business by helping them to work fast and effectively. Faster communication, data storage and the protection of documents and records are important. Information systems are so widely used; it benefits businesses to use information technology in their organizations. Storing and Protecting Information: Information system creates electronic storage systems to protect your company's valuable records. Storage systems, such as virtual vaults, keep information safe by only allowing certain users within your company to access, withdraw, add, or change the documents. Automated Processes: In business, people look for ways to do more work in a shorter amount of time. Information system improves a company's efficiency by developing automated processes to take burden off the staff. In turn, employees are free to work on other things while the computer runs their reports, creates queries, tracks projects and monitors financial transactions (O'Brien & Marakas, 2009).

Innovative Capability

Information systems help teams become more innovative as innovation software helps innovation workers overcome the challenge of psychological inaction – the myopic thinking that comes from being overly influenced by historical behavior or trends that prevents individual from considering the broadest scope of alternatives. Innovation software also helps communicate market requirements and product design capabilities across disparate communities, understand how to prioritize and leveraging knowledge and existing resources, and accelerates creative problem solving.

Competitive Advantage

Information System support strategies for competitive advantage. CRM (Customer Relationship Software) is a good example of a system that helps keep track of clients and tailor to their needs. CRM systems help manage and track customer or potential customers. It is a business technology mainly used by sales teams and the people involved in managing sales teams. Areas of involvement include opportunity tracking, lead generation, email integration with the current workflow process, automation of the workflow, collaboration, and reporting.

Methodology

The objective of this paper is to empirically investigate the impact of information systems on e-consumers use of the new banking technology in Nigerian banking industry. The research adopted a cross-sectional survey, data were drawn from five Universities in South-South States in Nigeria. Two Hundred (200) final year students were randomly chosen as the sample size of our study, (40 respectively from each University). A 5-point Likert Scale was used in questionnaire design (Walton 1975). Data obtained from the field were analysed using multiple regression-analysis with the aid of the statistical package for social sciences, version 14.0 (SPSS version 14.0).

Results and Discussion

Data Presentation and Interpretation

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.880[a]	0.909	0.780.	.	2.324

a. Predictors: (Constant), DB.
b. Dependent Variables: ISEC, WA.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	545.000	3	181.667	5.988	3.099[a]
	Residual	.000	0			
	Total	545.00	3			

a. Predictors: (Constant), DB.
b. Dependent Variables: ISEC, WA.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Erro	Beta			Lower Bound	Upper Bound	Tolerance	VIF
I (Constant)	34.437	5.203		13.017	12.005	34.437	34.437		
Info. Sec	1.491	2.011	.527	3.766	.466	.491	7.591	.345	2.899
Web Avail	2.477	2.060	.228	4.001	1.870	-.477	-.477	.664	1.507

a. Dependent Variable: ISEC, WA

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	15.00	46.00	29.50	13.478	5
Residual	.000	.000	.000	.000	5
Std. Predicted Value	-1.076	1.224	.000	1.000	5

Std. Residual	.	.	.	.	0

a. Dependent Variables: ISEC, WA

Explanation of some terms

DB = Database
ISEC = Information Security
WA = Web Availability
U_i = Disturbance term [Other variables not captured in the regression]
DB = $b_o + b_2ISEC+b_3WA+U_i$
DB = $34.437 + 1.491ISEC + 2.477WA + U_i$
Se = (5.203)(2.011)(2.060)
t-test = (13.017) (3.766)(4.001)
f-test = 5.988
Durbin-Watson (d) = 2.324
R^2 = 0.909

The data show that the coefficient of determination (R^2) is 90.9%. This means that 90.9% of the changes in the dependent variables are explained by the independent variable used. Again, the t-test of the independent variable is shown to be statistically significant at 5% level of significance. We therefore reject the null hypotheses and conclude that there is a significant relationship between the dependent variables and the independent variable used in the regression. Moreover, the f-test, at 5% level, shows that the independent variable is statistically significant. We also reject the null hypotheses and conclude that there is a significant relationship between the two dependent variables and the independent variables. Further, the Durbin-Watson (d) statistic of 2.324 shows that there is no presence of serial collinearlity of the first-order among the dependent variables.

In addition to the above, the regression results show that there is a positive relationship between database and information security. If database increase by a unit, this causes information security to increase by 1.491 units and vice versa. Again, there is a positive relationship between database and web availability. A unit change in database changes web availability by 2.477 units and vice versa. Consequently, there is a significant and positive relationship between data base and web availability in Nigeria banking industry.

Conclusions and Recommendations

Conclusion

Information systems are a foundation for conducting business in an information based business economy. In many industries, survival and even existence may be difficult without extensive use of information system. Most businesses today in Nigeria, especially the banking industry, use information systems to achieve objectives as operational excellence, new products, services, business models, customer/supplier relationships, improved decision making, competitive advantage, and day-to-day survival. It is obvious and a fact of life that organizations such as the Banks in Nigeria are becoming increasingly dependent on interconnected information system (IS) in order to conduct businesses and provide information and services to their customers. While the vulnerabilities of the systems are receiving increasing daily attention, the Banks in Nigeria

should endeavour to install superior security programmes and high capacity customer facilities in order to improve their customer's service delivery and protection in the use of their banks services.

Recommendations

- The banks should involve more of behavioural science researchers in order to develop and constantly verify theories that explains or predicts human or organizational behaviour.
- The banks should deploy more ATM machines at various points outside the bank premises to limit long queues for cash withdrawals.
- Develop the capability of creating new and innovative products and services.
- There should be constant availability of cash to avoid the usual NO CASH SYNDROME.
- Constant power supply to avoid lack of operational efficiency.
- Implementation of appropriate policies and related controls to achieve competitiveness in the global market in linking policies to business risks.
- The banks should promote awareness. They should continually educate e-consumers and others on risks and related policies associated with information systems.
- Must maintain the principle of business continuity in order to keep the banks critical functions operating, in the event of disruptions, emergencies or disasters e.g. power outages, hardware failures, 419ers malicious attacks, fires and storms.

Management Implications

- Students will be knowledgeable if the information provided are used for the purpose for which it was collected.
- Students will have the opportunity of sharing information.
- Students will have the opportunity to be informed concerning the corporations use of information about them, if it strays from the purpose for which it was collected.
- Banks will anticipate potential protection problems and apply the right policy in deterring such problems.

REFERENCES

Alter, S. (1999). *Information systems: A management perspective*, New York: McGrawHill.

Chase, R.B., Jacobs, F.R. and Aquilano, N.J. (2004). *Operations Management for Competitive advantage*, New York: McGraw-Hill.

Heizer, J. and Render, B. (2001). *Principles of Operations Management*, New Jersey: Prentice-Hall, Inc.

Laudon, K.C. and Laudon J.P. (2007). *Essentials of Business Information Systems*, New Jersey: Pearson-Prentice Hall Publishing.

Lee, A. S. (1991). *Architecture as a Reference Discipline for MIS*, *Information Systems Research: Contemporary Approaches and Emergent Traditions*, Armsterdam: North Holland Publishing.

Mingers, J. and Stowell, F. (1997). *Information Systems: An Emerging Discipline?* London: McGraw-Hill Publishing.

Nikhashem, S.R; Yasmin, F., Haque, A, and Khatibi (2011). Study on

customer Perception towards Online-Ticketing in Malaysia, *Proceedings for 2011 International Research Conference and Colloquium, Contemporary Research Issues and Challenges in Emerging Economies.*

O'Brien, J. and Marakas, G. (2010). *Introduction to Information Systems:* New York: McGraw-Hill.

O'Brien, J.A. (2003). *Introduction to Information systems. Essentials for the e-Business Enterprise*, New York: McGraw-Hill Publishing.

Ozuru, H. N. and Kalu, S. E. (2013). *An Introduction to E-Marketing,* Port Harcourt: Cutting Edge Publishing.

Rubin, A and Babbie, E. (2001). *Research Methods for social work,* United States: Wads worth Thompson Learning.

Schmid, J. and Weber, A. (1998). *Desktop Database Marketing*, U.S.A: NTC Business Publishing.