

Information Technology, Bank Automation, and Attitude of Workers in Nigerian Banks

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ABSTRACT This study examined the attitude of workers to the application of Information Technology in the banking industry and determined its effects on recruitment and training of staff. Data used for the study were collected from six commercial banks randomly chosen from Lagos. The choice of Lagos stemmed from the degree of clustering of the population as the headquarters of 55 out of 69 banks in Nigeria were located in the city. A total of 60 questionnaires were administered to the staff of the six banks out of which 42 responded. The questionnaire made use of likert scale to test the attitudes and opinions of the sampled population towards a 10-point variable. Oral interview was also conducted to corroborate and augment information generated from the questionnaires. Analysis of the data collected was done through the use of descriptive and inferential statistics such as percentages, mean and standard deviation. Responses from 42 employees of the six selected banks revealed that application of Information Technology has far reaching effects on personnel requirements. Sixty six percent of the employees (66%) claimed that automation of banking services has altered the required skill in favor of those that are computer literate in the banking environment. This has heightened the fear of redundancy and retrenchment among workers from fields that are less related to banking. This calls for constant training and re-orientation of staff. The need to train and retrain workers to make them relevant to automated banking environment was highly supported. About ninety five (95.1%) of the respondents, with a calculated mean of 4.5, agreed with this view. Majority of the workers (88%) believed that automation has not complicated work for the staff but has rather made it easier and more interesting. Necessary suggestions that could assist human resources managers in the banking industry were proffered.

INTRODUCTION

Background to the Study

The banking industry in Nigeria like the other sectors of the economy has witnessed tremendous changes over the years. The Structural Adjustment Programme (SAP) introduced in 1986 by Babangida's adminis-

tration has changed not only the structure but also the content of banking business. The number of banks rose tremendously and the banking environment became intensely competitive. This forced the technique of delivering banking services and the range of products in the market to change. The more banks that were licensed, the more the threats posed to the existing ones and the more aggressive the marketing techniques adopted for survival. Banks in Nigeria have come under increased pressure to offer improved services to be able to maintain reasonable market shares in the industry.

Consequently, the most important legacy of the liberal licensing of banks is the attendant innovative practices resulting from competition among banks. A lot of banks have found success in tapping from various opportunities provided by the advancement in Information Technology (IT). The director of Computer Services of CBN believes that banks, which fail to access the evolving revolution in IT may be sidelined in the future automated banking industry (Sanni et. al, p.10). IT has become the foundation upon which the future of the banking industry will be built. This agrees with the view of Brewer and Lunsford (1995, p.73) that it has become axiomatic that to remain viable in the 1990s and the decades that follow, financial service providers must modify their traditional operating practices.

As the practice of banking continues to undergo a process of transformation occasioned by deregulation and the exigencies of technological revolution, relevant skills are necessary for successful operation. The success of automated banking operations depends largely on the operators of the system. (Brewer and Lunsford, 1995, p.73) claimed that the most significant shortcoming in the banking industry today is a wide spread failure on the part of senior management to grasp the strategic

importance of technology and incorporate it into their strategic plans accordingly. This may call for training and orientation of the existing staff or recruitment of new ones.

Information Technology is a general expression covering computers, telecommunications and electronics. Information Technology has been defined as the automation of processes, controls, and information production (Khalifa, 2000, p.1). IT covers the harnessing of electronic technology for the information needs of a business at all levels. Adetayo et al. (1999, p.692) identified two forms of IT as Telemetric (big media) and Ethnotronic (small media). Telemetric, which includes such technologies as computer, satellites video and television has been applied to banking operations in various ways. IT today is basically electronics and is based on integrated circuits or silicon chips (Ibraheem, 2000). Atueyi (1999, p.2) saw IT as a concept, which refers to a host of systems, equipment and materials essentially computer based which is used to achieve the set goals of an organization in relation to the functions of an office. Information Technology is not one but many, which have converged to serve the needs of the information revolution (Alamu, 2000, p.2). It is a general expression covering computers, telecommunications and electronics.

The application of Communication and Information Technology concepts, techniques, policies and implementation strategies to all aspects of development at national, regional and international levels as well as life style has become a subject of fundamental importance and concern to all nations and indeed a prerequisite for global competitiveness (Okorhi, 2000, p.3). Boyett and Boyett (1995) emphasized the effect of Information Technology on business and the effect of business pressure on Information Technology. They maintained that in order to succeed (or even survive) in this dynamic world, business organization must keep pace with the ever-changing capabilities of Information Technology brought about by the advent of computer. Agboola, (1998, p.31) itemized various areas of computer application in business administration as following: Management Information System (MIS); Accounting Information System (AIS); Decision Support System (DSS); Executive Information System (EIS); Expert System (ES); Office Automation System (OAS); End User System (EUS) and

Management Support System.

Information Technology and Banking Automation

It is becoming increasingly difficult, if not impossible, for banks employing traditional methods (manual methods) to compete favorably in the industry. According to Gandy, (1995, p.18), the potential of the new information era to deliver financial services directly into people's home is causing trepidation among the big retail banks. IMF conference of 1989 confirmed that Information Technology has had more impact on more fundamentals, more quickly, than virtually any other external change in the history of the banking industry. It is transforming every aspect of a bank's business, from its management information to the nature of the products and services it offers. It fundamentally affects many of the key drivers of both cost and revenue, which will increasingly determine a bank's overall profitability and competitive positions'

With Information Technology, electronic funds and information transfer systems have been variously designed to deliver services to customers in a 'better' and 'faster' ways. Today, investment in technology has become an important component of an overall strategy in banks. Writing on new technologies and performance enhancement in the banking industry, (Ovia, 1997, p.2) stated that the new technologies have created unparalleled wired economy. The transfer of money from point 'A' to point 'B' has resulted in turning the actual money into bits and bytes through satellite transponders, fibre optic cables or regular telephone lines.

Banks utilize computer based systems as well as telecommunication technologies for storage, processing and communication (Adetayo et al., 1997, p.692). Computer technology has provoked several inventions and automated devices. The advent of computer and its various application areas has really brought succour to the agitating mind of many bank executives. Computer, an electronic device that accepts inputs, processes them, produces outputs, and stores data (Barry, 1988, p.9) has become a potent weapon in their hands. The origination of computer was an outcome of a deliberate search for methods of producing efficient, accurate and timely information. Information Technology now

allows banks to get closer to their customers, find out what they really want, and deliver a wider range of services at lower costs (Gate, 1996, p.20).

The first stage of the application of IT in banking was the use of Computer as a back office affair to transfer accounting and record keeping activities from branch ledgers to a centralized system. The second application area was on the automation of the labor intensive business of clearing cheque (David, 1982, pp.78-79). The third area of technological application accords priority to the liberation of banks and customers from the traditional constraints of time and place. Here, existence of high-speed cash dispensers and provision of home banking facilities have brought banks into closer and more frequent contact with their customers. Customers can do their banking when they want and at the convenience, comfort, privacy and security of their homes. The fourth application area centers on innovative technology where new products and services are made available to the customers. Banks now have computerized credit ratings and programs that determine when calculation of accounting balances is to be done.

The banking industry, which slowly evolved over the centuries, has suddenly found itself experiencing an intense process of change and transformation occasioned by deregulation and the exigencies of technological revolution. This has tremendous effects on the mode of banking operation and personnel requirements.

Automated Devices

Information Technology refers to the automation of processes, controls, and information production using computers, telecommunications, software and ancillary equipment such as Automated Teller Machine (ATM) and Debit Cards (Khalifa 2000, p.1). Automation involves the use of automated machines (computer-based devices) to carry out banking activities to increase speed, accuracy and capacity. (Agboola et al., 2001, p.2) identified dimensions in which automation in the banking industry can manifest:

- (i) Bankers Automated Clearing Services: Magnetic Ink Character Reader (MICR) is now being used for cheque processing in Nigeria. It is capable of encoding, reading and sorting.

- (ii) Payment Systems: Devices used here include automatic teller machine (ATM), plastic cards and electronic funds transfer (EFT). The basic elements of EFT can be classified into clearing network characteristics; remote services and pre-authorised debit/credit characteristics.
- (iii) Delivery Channels: These are the devices through which telecommunication based banking services can be delivered. Devices used here include interactive television, telephone and the Internet.
- (iv) Sourcing of Information: This involves the use of Data Warehouse And Electronic Data Interchange (EDI) as decision support for gathering and redistributing information in real time.

In Nigeria, ninety percent of the organizations sampled in 1996 had computerized at least one component of their activities and it was discovered that financial sector was the most computerized and had a higher degree of networking than any other sector (Agboola, 1998, p.31).

Several authors have conducted investigations into the impacts of Information Technology on banking operations in Nigeria. (Aragba-Akpore, 1998, p.23) discovered that IT is the backbone of banks' services regeneration. He cited the Diamond integrated banking services (DIBS) of Diamond Bank Limited as an arrangement geared towards creating sophistication in the banking sector in Nigeria. (Madubuko and Akhimien, pp.8-10) studied the Electronic Smart Card Account (ESCA) of All states Bank Limited and concluded that cardholders were satisfied with the benefits promised and delivered. The bank had an installed card base of 1600 as at April, 1997. (Ovia, 2000, p.25) discovered that in the past few years, banking activities in Nigeria have increasingly depended on the deployment of Information Technology and that IT budget for banking is by far larger than that of any other industry in Nigeria. He also claimed that On-line system has facilitated Internet banking in Nigeria as evidenced in some of them launching websites. He found out that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is domiciled. Agboola et al. (2001, pp.2-21) worked on Automated Banking Operations in Nigeria and (Agboola, 2001, pp.8-11) discovered that

Electronic Banking has tremendously improved the services of some banks to their customers in Lagos.

However, none of these authors has found out the effects of the application of Information Technology on the staff. The focus of this paper is to examine the attitude of bank workers towards the application of Information Technology in the industry and determine how it affects recruitment and training of staff.

Data Presentation and Analysis

A total of 60 questionnaires were administered to the staff of six banks. Out of this number, 42 (70%) were retrieved. The results of the responses served as a measuring yardstick for assessing the attitudes of workers towards automation of banking services

All the 42 respondents had tertiary education, and 11 (26.2%) of them had postgraduate degrees. This might influence the level of comprehension of the subject matter and ability to make reliable responses. Eighteen (42.9%) of the 42 respondents read business related courses such as banking, finance, accounting and business administration. Eleven (26.2%) read computer science, while 7 (16.6%) read economics. Only 6 (14.3%) read other courses that have little connection with banking. Out of the 42 respondents, 26 (61.9%) worked in the systems department, which had computers and automated devices.

The Degree of Utilization of Automated Systems as Perceived by the Workers

The degree of utilization of automated banking system is shown in table 1. About 87% of the respondents believed that magnetic ink character reader (MICR) was highly utilized in banking automation while 13.5% believed that it was moderately implemented. The calculated mean of 2.9, which is close to 3 shows that almost all the respondents believed that MICR was a highly utilized automated device. Other highly utilized devices are computer, local area network and electronic fund transfer with calculated mean scores of 2.8, 2.6, and 2.5, respectively on the likert scale.

With a calculated mean score of 2.2 and 2.1 respectively for wide area network and electronic data interchange, it could be deduced from the

responses of the bank workers that the two devices were moderately utilized. The rate of utilization of the other automated devices was rated low by the bank workers. All of them had a calculated mean score of less than 2 on the likert scale.

Attitude of Bank Workers towards Automation

The attitude of bank workers towards automation was also investigated. From table 2, it could be observed that 40.4% of the respondents strongly disagreed and 47.6% disagreed that automated machines have complicated work in the banks. The calculated mean of 1.83 on the likert scale supports this view. Similarly, the respondents did not agree that computer literacy offers no unique advantage to workers in automated banking environment as indicated by the calculated mean of 1.60 on the likert scale. Also rejected is the view that banking automation has not affected the size of the workers.

The need to train and retrain workers to make them relevant to automated banking environment was highly supported. About 57% of the respondents strongly agreed and 38.1% agreed with this view. The calculated mean score of 4.5, which can be approximated to 5 shows that almost all the workers believed in the need to train workers to make them relevant to the demands of computer automation. Similarly, the respondents also agreed with the following statements:

- *Fear of redundancy and retrenchment grips bank workers who are not computer literate;*
- *Fewer workers are needed in automated banks*

These two factors suggest the need for removal of drudgery of redundant or idle workers in order to achieve productivity and efficiency with minimal resources. Those affected in this rationalization can be trained and integrated as appropriate to make them relevant to the new banking operations.

- *Banking automation has altered the required skill in the banking industry;*
- *Recruitment into banks favors people with computer engineering background;*

It is important to recruit a reasonable number of people who can combine accumulated skills from Business Studies and Computer Education into banks. This will give rise to business

Table 1: Degree of utilization of automated systems as perceived by the workers

<i>Devices</i>	<i>x</i>		<i>fx</i>	<i>$\bar{x}$</i>	<i>S²</i>	<i>%</i>
<i>Automated Teller Machines</i>						
Highly Utilised	3	9	27	1.84	0.67	27.3
Moderately Utilised	2	10	20			30.3
Lowly Utilised	1	14	14			42.4
<i>Electronic Fund Transfer</i>						
Highly Utilised	3	21	63	2.5	0.46	55.3
Moderately Utilised	2	13	26			34.2
Lowly Utilised	1	14	4			10.5
<i>Electronic Data Interchange</i>						
Highly Utilised	3	15	45	2.1	0.71	41.7
Moderately Utilised	2	10	20			27.8
Lowly Utilised	1	11	11			30.5
<i>Electronic Cards</i>						
Highly Utilised	3	11	33	1.9	0.65	29
Moderately Utilised	2	13	26			34.2
Lowly Utilised	1	14	14			36.8
<i>Magnetic Ink Character Reader</i>						
Highly Utilised	3	32	96	2.9	0.12	86.5
Moderately Utilised	2	5	10			13.5
Lowly Utilised	1	-	-	-	-	-
<i>Local Area Network</i>						
Highly Utilised	3	29	87	2.6	0.38	72.5
Moderately Utilised	2	5	10			12.5
Lowly Utilised	1	6	6			15
<i>Wide Area Network</i>						
Highly Utilised	3	15	45	2.2	0.6	41.7
Moderately Utilised	2	13	26			36.1
Lowly Utilised	1	8	8			22.2
<i>Point of Sales System</i>						
Highly Utilised	3	4	12	1.6	0.53	14.3
Moderately Utilised	2	8	16			28.6
Lowly Utilised	1	16	16			57.1
<i>Electronic Home and Office Banking</i>						
Highly Utilised	3	9	27	1.8	0.67	25.7
Moderately Utilised	2	10	20			28.6
Lowly Utilised	1	16	16			45.7
<i>Computer System</i>						
Highly Utilised	3	33	99	2.8	0.19	84.6
Moderately Utilised	2	5	10			12.8
Lowly Utilised	1	1	1			2.6
<i>Telephone Banking</i>						
Highly Utilised	3	12	36	1.97	0.68	32.43
Moderately Utilised	2	12	24			32.43
Lowly Utilised	1	13	13			35.14

Source: Research Survey, 2000

professionals whose responsibility is to ensure that the procedures and controls used in computerized accounting system are properly designed and followed.

- Banking automation has made work easier and more interesting;

Bank management should intensify investment in information technology both in terms of human resources and automated devices. This should be an important component

in the overall strategy of banking operations to ensure competitive strength.

- An averagely educated person can use manual to operate computer;
Computer education should be encouraged in Nigeria to produce professionals who are highly skilled in software development system and application.

Some relationship can be established between some of the views accepted by the workers.

Table 2: Attitude of bank workers towards automation

	<i>x</i>	<i>f</i>	<i>fx</i>	<i>x</i>	<i>S</i>	<i>%</i>
<i>Automated Machines have Complicated Work</i>	5	2	10	1.83	0.95	4.8
Strongly Agree	4	1	4			2.4
Agree	3	2	6			4.8
Hardly Agree	2	20	40			47.6
Disagree	1	17	17			40.4
Strongly Disagree						
<i>Computer Literacy Offers No Unique Advantage to Workers in Automated Banking Environment</i>	5	-	0	1.6	0.49	-
Strongly Agree	4	3	12			7.1
Agree	3	-	0			-
Hardly Agree	2	16	32			38.1
Disagree	1	23	23			54.8
Strongly Disagree						
<i>Fear of Redundancy and Retrenchment Grip Bank Workers Who are not Computer Literate</i>	5	4	20	3.62	0.85	9.5
Strongly Agree	4	25	100			59.5
Agree	3	8	24			19.1
Hardly Agree	2	3	6			7.1
Disagree	1	2	2			4.8
Strongly Disagree						
<i>Banking Automation has Altered the Required Skill in the Banking Industry</i>	5	10	50	3.6	1.11	23.8
Strongly Agree	4	18	72			42.9
Agree	3	5	15			11.9
Hardly Agree	2	5	10			11.9
Disagree	1	4	4			9.5
Strongly Disagree						
<i>Fewer Workers are Needed in Automated Bank</i>	5	9	45	3.74	1.00	21.4
Strongly Agree	4	21	84			50
Agree	3	4	12			9.5
Hardly Agree	2	8	16			19.1
Disagree	1	-	0			-
Strongly Disagree						
<i>Recruitment into Banks Favours People with Computer Engineering Background</i>	5	2	10	2.74	1.20	4.8
Strongly Agree	4	9	36			21.4
Agree	3	13	39			31.0
Hardly Agree	2	12	24			28.6
Disagree	1	6	6			14.3
Strongly Disagree						
<i>Banking Automation has Made Work Easier and More Interesting</i>	5	17	85	4.2	0.73	40.4
Strongly Agree	4	18	72			42.9
Agree	3	6	18			14.3
Hardly Agree	2	-	0			-
Disagree	1	1	1			2.4
Strongly Disagree						
<i>Banking Automation has not Affected the Size of the Work Force</i>	5	-	0	2.33	0.94	-
Strongly Agree	4	6	24			14.3
Agree	3	11	33			26.2
Hardly Agree	2	16	32			38.1
Disagree	1	9	9			24.4
Strongly Disagree						
<i>There is Need to Train and Retrain Workers to Make Them relevant to Automated Banking Environment</i>	5	24	120	4.5	0.43	57.1
Strongly Agree	4	16	64			38.1
Agree	3	1	3			2.4
Hardly Agree	2	1	2			2.4
Disagree	1	-	0			-
Strongly Disagree						
<i>An Averagely Educated Person can Use Manual to Operate Computer</i>	5	1	5	3.11	0.43	2.4
Strongly Agree	4	24	96			57.1
Agree	3	3	9			7.1
Hardly Agree	2	7	14			16.7
Disagree	1	7	7			16.7
Strongly Disagree						

Source: Research Survey 2000

Because banking automation has altered the skill, there is the need to train and retrain workers. Also because fewer workers are needed in automated banks, fear of redundancy and retrenchment grips bank workers who are not computer literate.

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary of Findings

The research project has examined the effects of banking automation on personnel requirement in Nigeria. The study revealed that the period between 1990 and 1999 was marked with fundamental changes in the structure and content of banking business. The dramatic rise in the number of banks following the deregulation of the late 1986 and the distress syndrome of the early 1990's forced the banking environment to become intensely competitive. A lot of changes were brought to the technique of delivering banking services and the range of products. Thus, electronic products have been increasing in variety and popularity in Nigeria in the last two decades.

Responses from 42 employees of six selected banks revealed that banking automation occasioned by the breakthrough in information technology has far reaching effects on personnel requirements. As perceived by the employees (66%), automation of banking services has altered the required skill in favor of those that are computer literate in the banking environment. This has far reaching effects on personnel requirements. It has heightened the fear of redundancy and retrenchment among workers from fields that are less related to banking. This calls for constant training and re-orientation of staff.

Banking Automation has brought about various innovations that now dictate the pace for banking activities. It has not complicated work for the staff but has rather made it easier and more interesting. Much of the old brain storming activities have faded away. Machines now exist for counting money and various calculations on customers' accounts have been taken over by relevant designed packages on the computer. Human errors have been reduced to the barest minimum.

CONCLUSION

Investment in information technology has become an important component in the overall strategy of banking operations to ensure competitive strength. It continues to change the way relationships between banks and their staffs are organized in Nigeria.

For automation to be effective in banking, employees must acquire experience on how to use the new devices. This is because many of the devices are very sophisticated and require a good mastery for useful exploitation.

It is important to recruit a reasonable number of people who can combine accumulated skills from Business Studies and Computer Education into banks. This will give rise to business professionals whose responsibility is to ensure that the procedures and controls used in computerized accounting system are properly designed and followed. Computer education should be encouraged in Nigeria to produce professionals who are highly skilled in software development system and its application.

There is need for removal of drudgery of redundant or idle workers in order to achieve productivity and efficiency with minimal resources. Those affected in this rationalization can be trained and integrated as appropriate to make them relevant to the new banking operations.

Bank management should intensify investment in information technology both in terms of human resources and automated devices.

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