EXPLORING INFORMATION LIFECYCLE MANAGEMENT IN THE NIGERIAN FINANCIAL SECTOR: A CASE STUDY

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Abstract

This research paper presents theoretical and practical approaches at how the banking sector manages financial information, with emphasis being placed on financial service operations of cheque processing and securities trading. The banking sector was identified as it is presently the most vibrant and emerging sector in the financial services in Nigeria, which mentioned in the Financial Times. The banking sector has been the driving force behind Nigeria's equity, which is in access of $3.3bn in equity capital markets a transaction in 2007. The banks that were investigated in this research paper included banks that incorporate functions in the equity market as part of their daily operations and in the possession of relevant information on securities trading as well as information on cheque processing procedures. One of the main findings is that, there is above average knowledge and understanding of ILM within the financial sector in Nigeria. Therefore, it was recommended that the application of ILM techniques should be improved upon in the management of information in the Nigeria financial sector and to obtain the best results at every stage of the information lifecycle.
Keywords: Information Lifecycle Management (ILM), Financial Sector, Nigeria, Bloomberg, Securities Trading.

1   INTRODUCTION

The aim of this research is to look at information lifecycle management (ILM) in the Nigerian financial sector. Predominantly, the handling of information in the areas of cheque processing and securities trading in Nigeria will be researched to show the relevance and benefits of ILM to the financial sector. Parts of conducting this research was sending questionnaires with specific questions asked to test the knowledge and understanding of ILM (Information Lifecycle Management), its effect in different financial institutions and its effects on compliance to regulatory requirements. A precision of 98% was aimed and the methods of data analysis were inferential, descriptive and Pearson's correlation co-efficient.

The advances in technology during the last decade have transformed the way businesses conduct their operations and have created large volumes of data that financial services organisations retain and manage in multiple repositories for years. The industry-wide need to retain and safeguard increasing volumes of data, is forcing companies to restructure how data is stored, archived, backed up, and restored to prevent abusing the use of data including fraud and hacking (Carleton, 2005). Also Carleton (2005) stated, that much of the data generated by businesses were retained or destroyed according to corporate policies or individual decisions. However, in the last ten years, the business climate has changed as litigation, governance, and numerous regulations now dictate which types of data must be retained, how long they are retained for, and what the retrieval criteria should be. These factors will vary, depending on the financial organisation and the nature of the data. This research study will focus specifically on the Nigerian financial sector.

1.1   What is Information Lifecycle Management (ILM)?

Information lifecycle management (ILM) is a technique used to manage all content, regardless of data type, from creation to destruction by understanding and addressing the needs of different types of information. Many authors agree with Chaffey and Wood (2005, p.31) on the concept that Information Lifecycle is the basis of ILM, defined as; "*Information lifecycle is the sequence of activities involved in information management from creation through to permanent deletion*". The different elements of the information lifecycle are capture, organising, processing, maintaining and destroying of information. The concept of information lifecycle implies a system where data is analysed for its relevance and value to the organisation, it is then proactively managed accordingly from creation to destruction at the lowest possible cost. Over days, weeks, months, and years, data typically becomes less valuable and is managed consistently with its importance, depending upon business and regulatory needs such as speed, frequency of access, non-repairable audit trails, retention requirements, and consistent data retirement policies.

The high volume of data, diversity of data importance and the different use of data mean that instituting an ILM tool requires a multiphase implementation of hardware, software, and services capable of recognising types of data, the policies attributed to data, and their storage needs. The ability to use ILM technology to understand and apply different business rules to disparate types of data is imperative for financial organisations in order to meet demanding business challenges. These, could include simple sharing of data between branch offices and headquarters, timely bill payment by accounts payable, prompt revenue recognition by accounts receivable, facilitating legal discovery, and ensuring data protection. While inherent benefits of ILM might include improved regulatory compliance and business continuity, minimizing cost and providing accessibility while keeping in mind that data should be the focus for all ILM implementations (Carleton, 2005).

1.2   Definition of the Problem

Information management is an important issue to modern organisations due to the risk involved with mismanaging the data in the financial sector which heavily weights on the custodians of such data due to the resulted effect of issues concerned with fraud, security, privacy, records retention, and disclosure. In the light of this, information must be properly managed to avoid litigations of all sorts which may ultimately lead to the liquidity of an organisation.
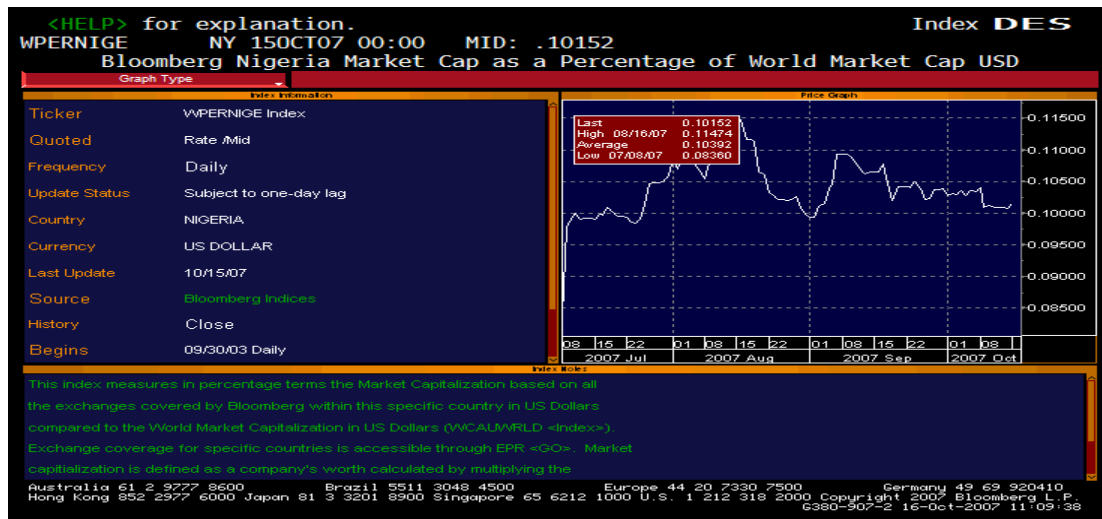
Figure 1.   Illustrates Nigeria Market Capitalisation as a Percentage of World Market Capitalisations. (Source: Bloomberg, 2007)

The recent boom in Nigeria's financial sector in the last year, with major developments in banking, the capital market, insurance etc, points to the need to adequately ensure that both local and foreign investors are duly protected. Figure 1 above, shows that Nigeria has a major stake in the overall percentage of the world's market capitalization reaching a high of 11.5% in August 2007 (Bloomberg, 2007). In Nigeria regulatory bodies such as the Central Bank of Nigeria (CBN) established in 1959. Along with other organisations established between the 80's and 90's such as NDIC (Nigerian Deposit Insurance Corporation), Financial Services Regulation Coordinating Committee (FSRCC), and the Security Exchange Commission (SEC). These regulatory bodies have come up with various regulations which banks must comply with, such as: deposit insurance, various examinations, and numerous banking policies amongst many regulations that guide financial institutions in various countries around the world. However, relevant literature which compares the compliance requirements of financial institutions in developed countries to that of developing countries has shown that a more stringent and standardized approach is applied to financial institutions in developed nations which allows for clarity, transparency and efficiency. Other places where laws are more stringent with supervisory measures like risk based supervision (RBS), are places such as: Canada, USA and the UK (Nigerian Deposit Insurance Corporation, 2004).

Trade in Nigeria in recent time has soared, with market capitalization estimated to be an average of 7.6 billion naira (Bloomberg, 2007). Moreover the involvement in international trade between companies registered on the Nigerian stock exchange and other exchanges worldwide has proven that there have been major developments in this sector. For example Guaranty Trust Bank Plc (GTB) a leading commercial bank in Nigeria is currently listed on the London Stock Exchange and presently rated AA- (Double A minus) by Fitch, and BB- (Double B minus) by Standard & Poor's, the best ratings so assigned by the two international rating agencies to any Nigerian or west African-based bank (Standard Times Press, 2007). This shows the extent of advancement in the financial sector in Nigeria and the importance of its information management. Adeleye et al (2004) in their study discovered that contrary to practice in developed countries the regulatory authorities in Nigeria have not formulated substantive guidelines or procedural rules to be adopted nationally by commercial banks. The proper management of information in any sector or subject depends and is based considerably on the understanding of that particular subject. Considering the scope of this research, it is of great importance to understand the issues pertinent to securities trading and cheque processing lifecycle, so as to facilitate proper management during their different stages. It is proposed that, this can be done through ILM, since understanding the changing value of data throughout its lifecycle is an eminent aspect of ILM.

1.3 Aims and Objectives of the Research Paper

In today's information age, data is the backbone of many modern organisations which have moved from the traditional management of information on paper to the "e"form. The electronic information has brought along with it, laws governing the storage and access of such information. This research shows the relevance and benefits of ILM (Wall Street & Technology, 2006) to the financial sector by emphasising the need to understand the lifecycle of information as a way of properly managing such important commodity.

The objective of this research therefore, is to critically investigate the following issues:
- The perception and knowledge of the term ILM to financial organisations in Nigeria.
- To assess the current information management techniques adopted in cheque processing and securities trading in Nigeria.
- To justify the need for ILM to the Financial Sector in Nigeria with the use of securities trading and cheque processing.
- To compare the relevant regulation regarding information management in the financial sector in developed countries, using the UK as a typical example to that of Nigeria.

From the literature reviews on the area of information management in the financial sector in Nigeria, we found that not much work has been done in this area, only some research has been done on assessing information management in the financial sector in Nigeria (Adeleye et al., 2004).

1.4   The Nigerian Financial System

In Nigeria people deal with cash, cheques, internationally accessible credit card, domestic debit card, quick cash, value card, and money order. It is worthwhile to mention that presently 1\$ (USD) is equivalent to 125N (naira). This research will focus on the financial sector in Nigeria, attempting to encourage the concept of ILM in the management of information, which is presumably widely unknown. In Nigeria, information management innovation is a welcome development in helping financial institutions meet regulatory obligations as well as improving how information is handled and managed, while most importantly satisfying and meeting customers' diverse needs. It is proposed that proper implementation of ILM techniques in the management of information will likely improve the way financial information is managed in Nigeria, thus increasing the growing confidence of the public in the financial system home and abroad (Whittington, 2007).

According to Okagbue and Aliko (2004), on 6th of July 2004, the new Governor of the Central Bank of Nigeria (CBN), and Professor Charles C. Soludo who made the announcements with regard to the banking sector reforms. Amongst its key requirements was, the minimum capitalization for banks should be raised to N25billion (approx \$250million) from N2billion (approx \$15million). As a step up towards transparency the CBN decided that by the end of December 2005, the deadline given, the names of Banks that meet up with the minimum capital base would be published. Thus building investors trust in the financial system. The reforms have led to a series of mergers and takeovers as businesses tried to build up sufficient financial reserves to escape sanctions. As a result of this process, the number of banks operating in Nigeria has shrunk from 89 to 25, as many of the 89 banks had a capital base of less than \$ 10 million (BBC, 2006). Trading in Nigeria reached an all time high, with returns exceeding 366% (Bloomberg, 2007). Many believe this is due to the recapitalization exercise, as noted by CBN governor Charles C Soludo "*Our banking system is powering the Nigerian Stock Exchange. Today, Nigeria has the fastest growing banking system in Africa and one of the fastest in the world*" (Soludo, 2007, p.2). In view of the automation of the Nigeria Clearing System, the payment system in Nigeria has improved a great deal. Further improvements are expected as CBN recently standardized the features of bank cheques, effective January 2007 (Accessbank plc, 2006).

1.5   Historical Background of Processing and Securities Trading in Nigeria
1.5.1   Cheque Processing
Okigbo panel (1994) noted that several steps were being taken to address the clearing problems. The magnetic ink character recognition (MICR) programme was being pursued along with the Nigeria Interbank Settlement System (NIBSS) Plc (2007).

In 1998 the Central Bank of Nigeria replaced an existing cheque processing system with a more sophisticated solution provided by Beta-systems (2003), formerly Kleindienst- known as MICR. Since then the bank has operated an image proof processing system which imitates the whole process chain, step by step. Using the MICR unit, data is read from the code line at the foot of each cheque. The cheques' data is then passed through various applications for verification, completion, validity and reasonable checks before its export to the (NACS) Nigerian Automated Clearing System (Central Bank of Nigeria, 2005). Contrary to expected development due to new technologies, various problems were still encountered by this sector. Nigeria Business

Information (2002 & 2003) explains that in 2002, the cheque clearing system was predominantly manual based, fraught with several problems and could not support the fresh introduction of sophisticated new technologies introduced by various banks, NIBSS and the CBN. It took about 3-9 days to clear a cheque. It was completely paper based and took a long period of float, which meant more reliance on cash for transaction settlement. The clearing system was prone to many abuses among which were: cheque suppression, drawing on unfunded accounts, swapping of cheque, late account update and lack of accurate data on payment inflows and outflows for regulatory management. The Central Bank of Nigeria (2005) reports that, since 2003 CBN has been running a comprehensive fully automated system to capture, process and archive all its payment documents at 23 branches countrywide. Which helped the bank's customers profit from faster payment transactions and quicker access to information, it helped banks cope efficiently with the continuously rising number of documents and reduced manual operations time to a minimum. In a bid to further improve the payment system and build confidence within the general public, in 2006 the CBN collaborated with the Bankers Committee to introduce codified Cheque Standards and Cheque Printer Accreditation Scheme to facilitate an efficient clearing system in the nation's banking industry (Vanguard, 2006). The codified Standard covers the paper specification, cheque layout- including the dimensions, securities features, securities design guidelines and other technicalities of cheques printing. These standards are what are currently in place, as Adewale (2006) reported that all cheques had to conform to the new standardized bank cheques features by 1st of January 2007 to be valid for banking transactions.

1.5.2   Securities Trading

Securities' trading in Nigeria is currently carried out on two exchanges: The Nigerian Stock Exchange (NSE) and the Abuja Stock Exchange (ASE). This provides an opportunity for companies in Nigeria to maintain dual listing of their stocks on two exchanges therefore providing greater competition in the entire capital market structure (Olaleye, 2004). The NSE will look into and in depth as trading in the Nigerian capital market is predominantly on the NSE. The NSE was established in 1960 as an organ of the Nigerian capital market. Originally known as the Lagos Stock Exchange, it was reconstituted into the Nigerian Stock Exchange in 1977. Presently, it has eight exchange offices outside Lagos in Abuja, Kaduna, Port Harcourt, Kano, Onitsha, Ibadan, Yola and Benin. The NSE currently has a total of 283 listed securities in two market segments- first tier securities market and second tier securities market. The first tier market is for companies that have at least 25 percent of their equity capital available to the public among other requirements, while the second tier market is for upcoming small and medium enterprises that have 100 percent of their equity capital available to the market. This operation can be compared to what obtains in the United Kingdom with the London stock exchange main market and AIM (Alternative Investment Market).

2   LITERATURE REVIEW

Adshead (2005) and Williams (2006) refer to ILM as an approach. Many authors refer to it as a process, technology, or tool used to manage data which also caters for compliance, others refer to it predominantly as a storage solution based on classification and a tiered medium of storage. Frost and Sullivan (2005) describe ILM as a sustainable storage strategy that balances the cost of storing and managing information with its business value. Adshead (2005) says it's an approach that addresses the management of data from cradle to grave which signifies a move away from pure-play storage towards ILM. Duplessie et al (2003) indicated that "*ILM is not just a technology, it is a combination of processes and technologies that determines how data flows through an environment. By doing so, it helps end users manage data from the moment it is created to the time it is no longer needed*".

ILM uses number of technologies and business methodologies including assessment, socialization, classification, automation, and review. In the assessment phase of ILM, storage

resource management (SRM) technologies can help administrators understand what data it has and where this data lives. It can then begin the socialization phase: generating reports from the SRM tools, presenting them to the company's department heads and explaining the breakdown of storage assets utilization and costs involved. The ability to prioritize data based on business requirements (that is, mission-critical, business-sensitive and departmental) will allow the information system (IS) to determine where data should live through its lifecycle and assist in creating policies to migrate data to the proper storage class over time. This leads to the classification stage, where data can be classified in the different ways, data type, data organisation, data age, and data value. In order to realize the benefits of the ILM process, the IS department must continuously review the usage patterns of its storage resources and ensure adherence to policies and procedures. This is supported by Harwood (2004) *"ILM is not a technology per se, rather it is a representation of a major shift in the approach towards creating and managing a storage infrastructure and the data it maintains. It was said that ILM provides a strategy for data management through the information lifecycle"*. He stated that ILM identifies the processes and technologies that determine how data flows through an environment from the time it is created to the time it is archived and ultimately destroyed. He further expatiated by describing how various data is stored, stating that all data maintained on storage networks has a defined lifecycle. This identifies the way information travels through an organisation from its inception to its eventual archiving and removal. In general there are three stages through which data travels: creation/acquisition of data, publication, and retention and data disposal. Chaffey and Wood (2005, p.31) wrote on the information lifecycle which they define as: *"the sequence of activities involved in information management from creation through to permanent deletion of information. They consider the active management of information as an organisational resource to achieve better business results involving the management of the information lifecycle"*.

Procedures for managing the different phases of the information lifecycle are based on various information policies set by organisations. Merchand et al (2001) differs from Chaffey and Wood (2005) defined ILM by their inclusion of sensing, which they believe should be the first stage of the information lifecycle. They added that companies with mature information orientation (IO) know that certain relationships or linkages exist between the five specific information management practices- sensing, collecting, organising, processing, and maintaining. Improved maintenance of information directly affects the collection of information, saving on the need to recollect the same information over and over again, therefore closing the path of the information life cycle.

2.1 Overview of Cheque Processing Lifecycle and Securities Trading Lifecycle

Each year, hundreds of billions of payment transactions involving paper cheques or electronic funds transfers take place and for each transaction, data must be retained for several years. At most financial institutions, the archive for the inquiry stage of the information lifecycle lasts 3-4 months. Then the data is moved to secure, long-term archives where it is stored for up to 7 years before being destroyed (see figure 3).

**The Check Processing Information Lifecycle Overview**
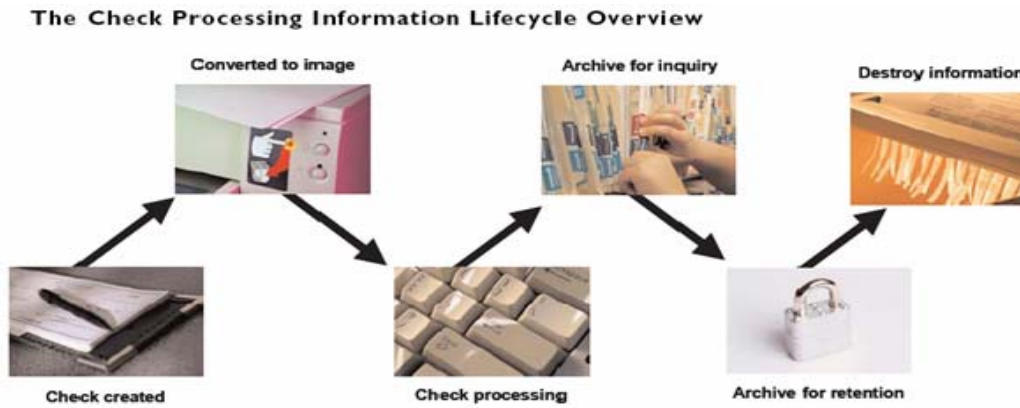
Figure 3.   Illustrates the Cheque Processing Lifecycle (Source: Frost and Sullivan, 2005)

The sheer volume of transactions involved in cheque processing creates an enormous ILM and corporate governance challenge for banks. Without an ILM system capable of moving data to different tiers of storage and automatically assigning   retention and destruction schedules as needed, it will be very difficult to rein in costs and operate at a profit (Frost and Sullivan, 2005).

2.1.1   Securities Trading

The process begins with a buy and a sell order (see figure 4). When buyers and sellers find each other in the securities markets, a trade is made, and the settlement process begins when the buyer transfers funds to the seller for the securities purchased. After payment has been made to the seller, documents are issued to the buyer of the securities and statements are generated for both the buyer and the seller.

A Financial Securities Transaction Information Lifecycle Overview
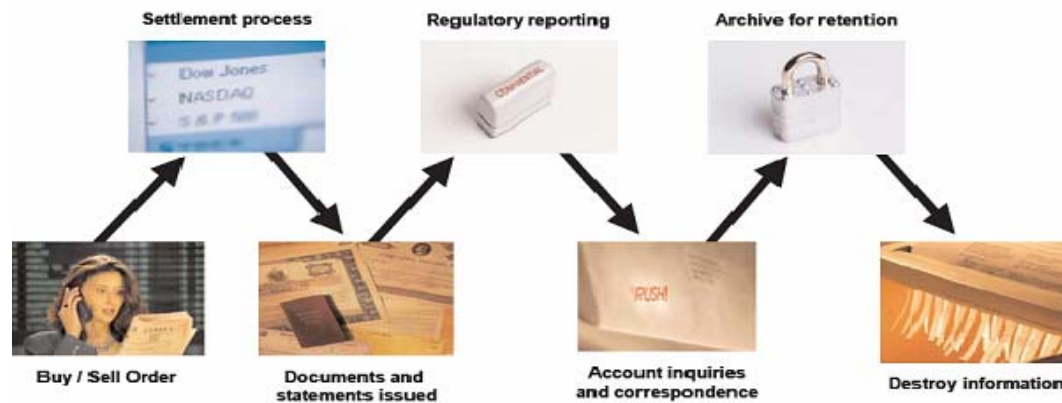
Figure 4.   **Illustrates the Securities Trading Lifecycle** (Source: Frost and Sullivan, 2005)

Each completed purchase and sale must be reported to its respective securities regulatory agency. In the United States, in Nigeria, is called the Nigerian Securities and Exchange Commission-SEC (2007), which is the equivalent to the Financial Services Authority (FSA) in the UK. Account enquires are made and correspondences are verified to ensure the settlement process. It is archived for retention for the required number of years before it is eventually destroyed, (Frost and Sullivan, 2005).

2.2   Relevance of Data Protection to Cheque Processing and Securities Trading

The explosion of corporate data in the 1990s, coupled with new data storage technology such as networked storage, has made the accumulation and management of large amounts of data a corporate priority. With the advent of new regulations and the understanding of how incredibly valuable corporate data is, there is a new focus on protecting and accessing data. Bradley (2006) noted that there are several reasons for spending money, time, and effort on data protection. The primary one is minimizing financial loss, followed by compliance with regulatory requirements, maintaining high levels of productivity, and meeting customer expectations. As computers have become more and more integral to business operations, data requirements from regulators as well as from customers have been imposed on businesses. There is a clear expectation that important data be available 24 hours a day. This is only possible by implementing a working data protection strategy such as ILM

2.3   The Nigerian Financial Services Regulators

The CBN in April 1994 undertook to facilitate a formal framework for the co-ordination of regulatory and supervisory activities in the Nigerian financial sector by establishing the Financial Services Coordinating Committee (FSCC) to address more effectively issues of common concern to regulatory and supervisory bodies, through consultations and regular inter-agency meetings. The name of the committee was subsequently changed to Financial Services Regulation Coordinating Committee (FSRCC) in 1999. In order to enhance the effectiveness of the Committee, the NDIC, NSE and National Board for Community Banks were co-opted as observers. Amongst the objectives of the reconstituted committee was to coordinate the supervision of financial institutions, to cause the reduction of arbitrage opportunities usually created by differing regulatory and supervisory standards among supervisory authorities in the country, and to eliminate information gaps encountered by any regulatory agency in its relationship with any group of financial institutions. The CBN lists members of the FSRCC (Nigeria Deposit Insurance Corporation, 2005) as: the Central Bank of Nigeria (CBN, 2007), Corporate Affairs Commission (CAC), Federal Ministry of Finance (FMF), Nigerian Stock Exchange (NSE), National Insurance Commission (NAICOM), and the Securities Exchange Commission (SEC).

The Nigerian stock market has performed exceptionally well in recent years. Many investors link this to the successful recapitalization of Nigerian banks in 2005. The exchange now experience cross border listings and transactions, high influx of foreign investments and investors and is adjudged to be one of or possibly the fastest growing exchange in the world. It currently boasts of over 10 million investors (Ogbutobo, 2007).

2.4   Review of ILM Solutions by Vendors

Over the past year, the publicity surrounding ILM has blossomed into a marketing circus, with nearly every storage vendor scrambling to associate ILM with as many of their products as possible. Arkivio, Deepfile, and Kazeon are all developing intelligent automation around how enterprises collect, classify, and trigger movement for file-level archival data. By creating inventories of metadata associations for all file data, which allow very detailed classification schemes to be created (O'Neill, 2005). Network Appliance Incorporated in 2004 launched an ILM software product called Lockvault. Val Bercovici, chief technology architect at Network Appliance, alleged that tiered storage and information management is the answer to unappealing and difficult task of keeping data for very long periods (Mohamed, 2004). IBM has ILM solution offerings in IBM System Storage disk and tape systems, IBM stated that it can help businesses select the best solutions to manage information throughout its lifecycle (IBM, 2007). The development of ILM solutions also saw vendors engaging in mergers and acquisitions to get a competitive advantage in the market. For instance the acquisition of Softek Storage Solutions Corporation by IBM which Armonk (2007) reported that through the acquisition.

3   RESEARCH METHODOLOGY

This section covers the methods applied in designing, collecting, and analysing the data. Survey was used to collect primary data with questions designed to show respondents knowledge and understanding of ILM, current information management practices as regards cheque processing and securities trading, effect of ILM on the organisations operations and the effects of compliance to regulatory requirements on information management. Part of the study involved the main author travelling to Nigeria to ensure the research was done as accurately as possible. The primary research of this work was done in Nigeria to certify responses were collected from the required population. This also, gave me the benefit of proper and timely collection and I was able to justify the need for the research in person which went a long way in reassuring those involved. The sample size of 60 was chosen from the total population. This was arrived at in an attempt aimed at achieving a reasonable level of precision. The research covers 15 banks and 7 finance houses in Nigeria. 45 questionnaires were handed out to banks of which 34 was returned (75.5%) with all 15 banks being represented at least once. Out of the 15 questionnaires handed out to finance and brokerage firms, 10 was returned (66.6%), again with all 7 organisations being represented at least once. Overall, the valid questionnaires returned totalled 44 (73.3%). It can be concluded that the retrieved questionnaires percentage is substantial.

The research covers banks that deal in equity, originally only these banks were to be used as I assumed all banks had a section that dealt in equity; most did at other remote sites while others did not. During the course of the research I realised respondents from some of the banks left out parts of the questionnaire that dealt with securities trading. As one respondent said "I cannot give any relevant answer to that question as it is outside the scope of my job and I have no opinion on it". So while all banks qualified to fill the questionnaires when it pertained to cheque processing, not all of them could fill-in the aspects on securities trading. This was due to different areas of speciality of various banks and the diverse fields of staff members. Thus opinions were sought from 7 financial organisations that dealt in securities trading asides banks, such as brokerage firms etc. In order not to distort the findings, the authors needed to ensure both aspects had equal responses, by administering questionnaires to finance houses and brokerage firms. Thus, the gap in knowledge was adequately filled without distorting the answers, as it meant financial institutions asides banks also left-out the part on cheque processing. Follow-up interviews were conducted to complement the questionnaires that were previously filled by respondents.

3.1   Method of Data Collection

Both primary and secondary data was considered in achieving this work. The primary data was collected using a well-structured questionnaire. The secondary data were collected from all relevant text books, past research reports, journals and perusing the internet. The questionnaires were prepared and administered only to banks, finance houses, and brokerage firms in Nigeria.

3.2   Sampling Frame

The conclusion to use 44 as the sample size was as a result of the retrieved questionnaires. Commercial banks were used as they are most active in the financial sector. Out of the total number of 25 commercial banks in Nigeria, a random selection of 15 was selected. There was no sexual preference or bias within the sample elements, the intended population from which information was required were: both male and female staff members of the selected organisations in Nigeria.

3.3   Sample Procedure

The records containing the confirmation of institutions used for this study was the number of banks, finance houses, and brokerage firms in Nigeria according to the CBN (CBN, 2006). The

procedure by which the constituent of the targeted population was selected so as to eliminate bias while picking the institutions to survey was random sampling.

The authors found that some people have no knowledge about ILM at all, others needed to review some of the questions to gain an understanding of what was being asked. Therefore, the main author allowed questioning on the day, the questionnaires were dropped off in order to enlighten anyone who didn't know about ILM. Often respondents were asked to interpret the questions based on their perception, knowledge, and personal views of the topic. Thus, the main author only facilitated general questions on ILM and not questions on benefits, or company specific usage. This was done to help respondents in getting the overall picture on ILM, bearing in mind not to create bias in the responses. The institutions were reassured of strict confidentiality which was an issue that most wanted to ascertain. Also reassurance was given that their information would not be passed on to their competitors. A requested for follow-up interviews with some officers in person was granted after the administration of the questionnaires but before collecting them as some needed explanations on specific questions, e.g. questions 7 and 8. A meeting was arranged with some people after the collection of the questionnaires and follow-up interviews for a more detailed explanation of the concept as well as a review on the subject: which included names of vendors offering ILM solutions and some of their products.

3.4   Method of Data Analysis

This study made use of both descriptive, inferential statistics and correlation to look at the perception and knowledge of ILM in financial organisations in Nigeria. Descriptive statistics was used to describe patterns and general trends in the survey; mostly in form of simple percentages and graphical representations. However, the relationship between variables was described using correlation analysis.

The correlation coefficient used was the Pearson correlation coefficient which is a number between -1 and +1 that measures both the strength and direction of the linear relationship between two variables. The magnitude of the number represents the strength of the correlation (Creech, 2007). The significance levels used to determine the odds that the correlation is a chance occurrence were 0.05 and 0.01. Also, there is no strong prior theory to suggest whether the relationship between the variables would be positive or negative, the two-tailed test was applied. Using the statisticatical package for the social sciences (SPSS), the correlation analysis explored to look at the relationship between variables, the strength of the of the realtionships and to analysis the effects of ILM on cheque processing, securities trading, organisations' operations and performance and on the overall management of information system by the various financial institutions.
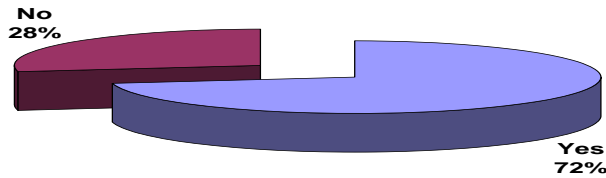
4   ANALYSIS

The respondents were randomly selected across consolidated financial institutions in Nigeria. The following data and diagrams are the outcomes of the research study conducted, analysis were arrived at using the SPSS package, further analysis were based on the valid percentages derived, which allowed for the main assumptions arrived at. Field survey (2007) denotes results of information collected from questionnaires administered during this research study. For ease of understanding, indicated questions relating to the analysis were picked from the questionnaire.

4.1   Knowledge of Information Lifecycle Management in Financial Institutions

Management of information has been necessary since the inception of data collection. The ILM logic has been used by Records and Information Management (RIM) professionals for over three decades and had its basis in the management of information in paper or other physical forms (microfilm, negatives, photographs, audio or video recordings and other traditional storage facilities).

Question 1: Do you have any knowledge of ILM?

Figure 4.1: Knowledge of Information Lifecycle Management in the
Financial Institutions

The analysis shows the level of knowledge of ILM among the selected financial institutions in Nigeria. The figure reveals that more than 72% of the respondents claimed awareness and knowledge of ILM in their various organisations, while over 27% had no prior knowledge of ILM. Figure 4.1 above indicates that a large number of people are aware of, and have knowledge of ILM in the Nigerian financial sector.

4.2   Use of ILM by the Financial Institutions
When ask on the use of ILM, the results as shown that almost 63% of respondents from the selected financial institutions claimed their organisation uses ILM techniques, while about 37% said they were not using the ILM approach. This reveals that more than half of the respondents claim to use ILM. This is a good sign considering the sensitivity and volume of financial data to be managed in Nigeria in recent times, thus the usage of ILM could further enhance efficiency within financial institutions.

4.3   Respondents' Job Title
The majority of the respondents were in fund transfer (26.8%), customers' service (19.5%), and domestic operations (19.5%) departments while the rest were marketers, relationship managers etc. This was envisaged to give realistic responses, as respondents with high percentages are the frontline staff who actually interact with customers and fundamentally partake in the various stages of cheque processing and securities trading information lifecycle.

4.4   Perception of Information Lifecycle Management
The information shows the level of understanding of what ILM is to the selected members of staff in the financial institutions in Nigeria. The analysis revealed that majority of the respondents (36.8%) perceived ILM as a record management technique, 26.3% defined it as document management, and 15.8% described it as archival policies and content management. However, very few respondents (5.3%) viewed it as an embodiment of all the definitions given above. This shows that while people have a general knowledge and use of ILM, its perception and areas of application differs from one organisation to the other. This is no surprise as review on vendors who provide ILM solutions show that they have catered for the different needs of ILM to different organisations with ILM solutions that vary in application areas. Though, it is important to mention that people must envision ILM as a concept that involves the data management from its creation till its destruction.

4.5   Technologies Used in the Protection and Management of Information in
Nigerian Financial Institutions
Given the fact that, the flow of sensitive information in and out of the organisation is of utmost importance, appropriate technologies are usually needed to protect such flow of information.

Analysis shows that, most financial institutions use a combination of all four factors specified, when considering the factors individually, Majority of the respondents (46.1%) use anti-virus software, 23.3% use firewall, 18.4% use secured electronic transactions while just 9.2% use biometric as means of protecting the flow of information. The results indicate that hackers and fraudster's access to personal customer data are guarded against and data is protected as all organisations have security measures in place. It was also observed that some of the financial institutions use more than one technology to achieve maximum protection of customers.

4.6   Usage of Information Lifecycle Approach

One of the major objectives of this work is to look at the various ways by which financial institutions manage their data. In view of this, it becomes imperative that one finds out how many of the selected institutions use Information lifecycle approach for the management of their data. According to the information in table 4.7, majority of the respondents (84.2%) use a lifecycle approach for the management of their data while just 15.8% did not use the approach among the selected financial institutions. It is important that organisations understand ILM in the context of the lifecycle approach for proper usage. The results showed that over three quarter of the respondents did, which is a good sign of proper use of the technique.

4.7   Respondents' Opinions on the Major Advantages of ILM in Nigerian Financial Institutions

The information in table 4.7 shows the major advantages of ILM as perceived by respondents. According to majority of the respondents (21.4%), ILM is a technique that helps in data processing in organized enterprises such as financial institutions. It was also majorly seen as pertinent in cheque processing and securities trading. Other advantages include, keeping of data and information secure, flexibility in monitoring information, helps to keep good records etc.

Question 19: Opinions on the major Advantages of ILM

	Frequency	Percent	Valid Percent
To monitor compliance and data security	1	2.3	3.6
Reduces turn around time	2	4.5	7.1
Pertinent in cheque processing trading of securities	6	13.6	21.4
It allows for proper management of Information	2	4.5	7.1
Ensures information reaches people on time	4	9.1	14.3
It helps in data processing in an organisation	6	13.6	21.4
It is good for security of Information	2	4.5	7.1
It helps to keep good record	2	4.5	7.1
It offers the flexibility of monitoring Information	1	2.3	3.6
It enhances performance of staff	2	4.5	7.1
Total	28	63.6	100.0
No Response	16	36.4	
Total	44	100.0	

Table 4.7   Sample of Respondents' Opinions on the Major Advantages of ILM in Nigerian Financial Institutions

4.8   Respondents' Opinions on the Major Disadvantages of ILM in Nigerian Financial Institutions

There is no such good technique or approach without its shortcomings. Some of the disadvantages of the ILM as perceived by the respondents are shown in table 4.8. According to the majority of the respondents (20.8%), the major disadvantage of the approach is the heterogeneous nature of the process. Other disadvantages include cost of maintenance, inaccurate information, inability to file back lost information and occasional delays in information and data processing. While (11.1%) stated that the fact that data value could not be accurately measured seems to be one of the major shortcomings of this technique of data management.

Question 20: Opinions on the Major Disadvantages of ILM

	Frequency	Percent	Valid Percent
Cost of maintenance level of awareness	1	2.3	4.2
Heterogenous nature of the process	5	11.4	20.8
It could be monotonous	4	9.1	16.7
Information gotten may not be accurate	3	6.8	12.5
It might cause delay in Information and data processing	2	4.5	8.3
It could give negative Information about an organisation	1	2.3	4.2
Any Information lost in the record may not be refilled	4	9.1	16.7
Access to Vital Information	1	2.3	4.2
A Process is shared among more than one person	3	6.8	12.5
Total	24	54.5	100.0
No Response	20	45.5	
Total	44	100.0	

Table 4.8   Sample of Respondents' Opinions on the Major Disadvantages of ILM in Nigerian Financial Institutions.

4.9   Cheque Processing Lifecycle Stage at which Improvement is most needed

All the respondents who used ILM were asked to indicate the stage at which they believed cheque processing lifecycle needs improvement. Most of the respondents (57.5%) were of the opinion that improvements are most needed at the stage of processing the information, 20.0% of the respondents said it would be needed at the organising stage of the process.

Question 21: At what Stage in the Cheque Processing Life Cycle is Improvement most needed?
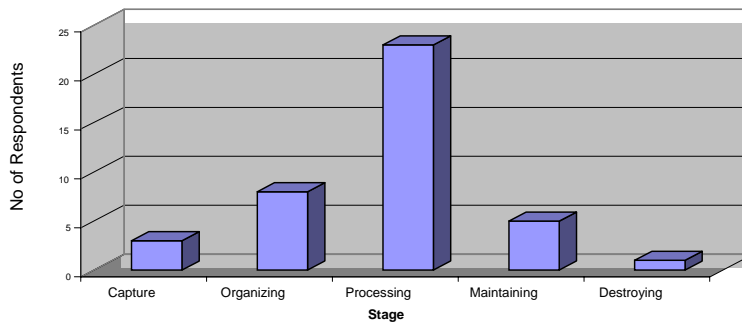
Figure 4.9   Cheque Processing Lifecycle Stage at: which Improvement is most needed?

The least category of respondents is the stage of capture and destruction, as shown in figure 4.9 above. This result was anticipated, as management of the stages involved in the cheque processing lifecycle would differ from one financial institution to the other. Processing probably has the highest percentage because the successful processing of a cheque will involve contact and transactions with external organisations e.g. the Nigeria Inter Bank Settlement System Plc – NIBSS (2007) that facilitates the payment of cheques between banks through Nigerian Automated Clearing System (NACS).

4.10   Securities Trading Lifecycle Stage at which Improvement is Most Needed

As illustrated above, the majority of the respondents (48.5%) agreed that there should be more improvement at the stage of processing, 18.1% opined that it should be at the stage of capture and organising. The least category of respondents said it should be at the stage of maintenance. Again, this is due to involvement of external institutions, dealings and regulators. In the case of sales of an order, certificates must be lodged with the CSCS, which verifies and authorises the transaction.

Question 22: At what Stage in the Securities Trading Lifecycle is Improvement most needed?
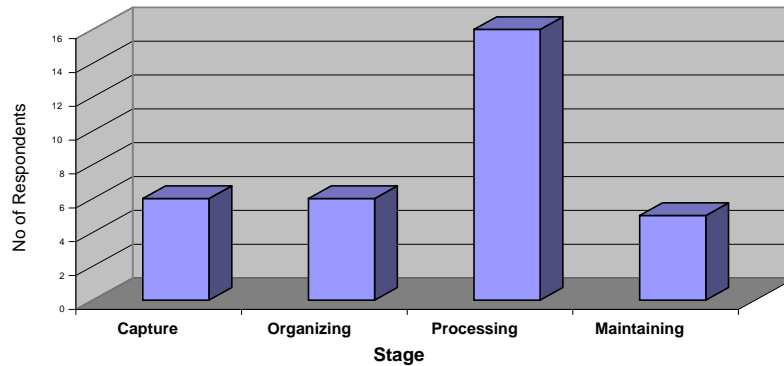
Figure 4.10   Securities Trading Lifecycle Stage at which Improvement is most needed

4.11   Management of Information with Regards to Cheque Processing and Securities Trading

When asked to rate the management of information in the areas of cheque processing and securities trading. Most respondents though it was good (60.0%), about a third (35.0%) said it was excellent and 5.0% said it was just fair, see table 4.11.

	Frequency	Percent	Valid Percent
Excellent	14	31.8	35.0
Good	24	54.5	60.0
Fair	2	4.5	5.0
Total	40	90.9	100.0
No Response	4	9.1	
Total	44	100.0	

Table 4.11   Management of Information with regards to Cheque Processing and Securities Trading

Further analysis showed that the respondents followed similar procedures when a cheque is collected at the bank and when it is processed. For instance, a particular procedure will involve collection of the cheque from the customer, making sure that the amount in words tallies with the figure, cheque validation, and stamp by the fund transfer unit and sending of cheques to the clearing house. The questionnaire also sought for information on how the respondents would treat shares (buying and selling) requests. The respondents had varied opinions on how this should be done. For instance while some were of the opinion that the customers should buy from the Initial Public Offers (IPO) or on the floor of the stock markets others said it should be done through a stockbroker. Payment is usually by cheque or cash. After this step, customer's validity will be checked and an account with CSCS (Central Securities and Clearing System) will be opened for new customers or credited for existing customers of the exchange. In the case of banks with securities trading services that also act as brokers, some customers may be required to open an account with the bank for ease of transaction. After this, further instructions will be given by the customer to the stockbroker on the shares purchase schedules.

4.12   Respondents' Opinions on How to Improve Information Lifecycle Management

Advice from the experts (all the respondents) was sought on the use of ILM in their institutions and how to improve the approach. The respondents gave varied opinions on this issue. Quite a

number of the respondents (26.9%) opined that the processing should be made a lot easier from what is currently practiced while some of them said there should be intensive workshops and training on how to execute the procedures. Other opinions are that there should be increased level of awareness among the members of staff, capturing stage should be effectively managed, members of staff should always key in accurate information and that errors are checked by the technique to be more enhanced, the procedure should more accessible and affordable etc.

4.13 Assessment of the Effects of ILM Usage on Management of Information by the Financial Institutions in Nigeria

This section discusses the analysis and the effects of ILM on the cheque processing, securities trading, organisations' operations and performance; and on the overall management of information system by the various financial institutions. The result of analysis of a bivariate correlation is shown in table 4.13 and the variables correlated are shown in the key (Q1-Q6) below. The table reveals that there exists a highly significant and strong relationship ($r = 0.808$, $p < 0.01$) between institutions that use ILM approach and members of staff that have the knowledge of the technique, this is shown by the correlation between Q1 and Q2.

This relationship ascertains the level of awareness between the financial institution that use ILM and the members of staff that have knowledge of ILM. The result of the analysis (using the correlation between Q3 and Q4) shows that the way the organisations manage their information system has a strong significant impact on the way they handle cheque processing and securities trading ($r = 0.611$, $p < 0.05$), additionally, the way organisations manage their information systems has a fairly significant relationship to (using the correlation between Q3 and Q6) the effect of compliance to regulatory requirement on organisation performance ($r = 0.525$, $p < 0.05$). This might be an indication that the handling of cheque processing and securities trading and effect of compliance to regulatory requirement on organisation performance has a lot to do with the way such information is processed and managed or that organisations that properly manage their information systems feel a more positive effect from compliance to regulatory requirements on their organisations performance.

Correlation Coefficient

	Q1	Q2	Q3	Q4	Q5	Q6
Q1	1.000					
Q2	.808**	1.000				
Q3	.204	.165	1.000			
Q4	.131	.235	.611**	1.000		
Q5	.033	.312	.363	.432*	1.000	
Q6	.060	.225	.525**	.460**	.923**	1.000

**· Correlation is significant at the 0.01 level (2-tailed).

*· Correlation is significant at the 0.05 level (2-tailed).

Table 4.13 Result of Bivariate Correlation

KEY: Q1: Usage of Information Lifecycle Approach; Q2: Knowledge of ILM; Q3: Management of Information System by the organisation; Q4: Management of Information with regards to Cheque Processing and Securities Trading; Q5: Effect of ILM on Organisations' Operations; Q6: Effect of Compliance to Regulatory Requirement on Organisation Performance.

Further analysis (using the correlation between Q4 and Q5) showed that the methods of handling information with regards to cheque processing and securities trading has a comparatively low significant impact on the perceived effects of ILM on the organisations' operations ($r = 0.432$, $p < 0.05$), and it also (correlation between Q4 and Q6) has a comparatively low significant impact on the effect of compliance to regulatory requirements on the organisations performance ($r = 0.460$, $p < 0.01$). These results imply that most of the financial institutions value compliance to regulatory requirement with regards to cheque processing and securities trading via ILM

approach. There also (correlation between Q5 and Q6) appears to be a strong and highly significant relationship (r = 0.923, p < 0.01) between perceived effects of ILM on organisations' operations and effect of compliance to regulatory requirement on organisation performance. This result further supports the fact that financial institutions in the country see ILM as an approach to comply with regulatory requirements bearing in mind its effects on organisational performance.

5   CONCLUSION

The ILM is a new and growing area in the financial sector due to its relevance to data management and its support to adhering to growing regulatory requirements while helping to identify and classify the changing value of data throughout the information lifecycle. The risk involved with mismanagement of data in the financial sector weighs heavily on the custodians of such data due to the resultant effect of issues concerned with fraud, security, privacy, records retention, disclosure etc. In the light of this, information must be properly managed to avoid litigations and leakages of all sorts which in some cases may ultimately lead to the liquidity of an organisation. In recent times, financial regulations have increased the need and duration of keeping financial information. It was observed that data capture, organisation, processing, maintaining and eventual destruction of any sort of information is inevitable. This research paper has positively shown that Nigerian financial institutions are conscious of the development and changes necessary to drive positive information management needs.   Nigerian financial institutions like their counterparts in other parts of the world are evolving daily and show the readiness to acquire the necessary policies and techniques to make their work easier, improve on their record keeping, and safeguard their clients' privacy and their data management processes. These are all emphasised and provided for by various ILM techniques. With majority of financial institutions already using ILM techniques and most of the respondents admitted having knowledge of the technique and using it on a regular basis. It was duly observed that ILM is a good tool for managing information. It was opined that the effects of ILM on the organisations operations were generally very good, and respondents pointed out its advantages and identifying some of its flaws.

The research conclusively shows good understanding and adoption of ILM in the Nigerian financial institutions, thus, it can be logically concluded that a descent percentage of the financial institutions are of the opinion that ILM is crucial to the survival of their institutions since large and complex data are processed on a daily basis with the use of ILM.

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