

Assessing Implementation of Knowledge Management Systems in Banks, a Case of Ghana

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ABSTRACT

This study was carried out to determine whether the investments made in KMS have helped the banks to gain competitive advantage or not, and the extent to which the KMS have helped the bank to achieve their objectives. 27 licensed banks by the Central Bank of Ghana participated in the survey, representing 100% participation rate. The study used structured questionnaires (open and close ended questions) and interview to collect data and the findings were analyzed using the SPSS software and presented by use of descriptive statistics. The study revealed that the KMS are for the tracking and the management of the bank's operations both internally and externally. The KMS thus handles both front and back office operations and transactions. It also handles both clients and staff data and records. The conclusion reached is that investments in KMS enables the banks to achieve their objectives and helps it gain a better corporate image and improved performance.

Keywords: Knowledge, Knowledge Management (KM), Knowledge Management Systems (KMS), Banking Information System (BIS)

INTRODUCTION

It is the knowledge age, truly a time when knowledge is power. More so than ever before, organizations such as banks all over the world are focusing on knowledge as a key resource. Banks are now using knowledge to gain and sustain a competitive advantage. This is why banks understand that what they do not know can become an "Achilles heel" and a source of advantage to their competitors. This therefore calls for the effective management of knowledge in and by every organization as an organizational asset.

Managing knowledge in Ghanaian banks have become a necessity and a key asset. Knowledge management in banks has gained credibility by virtue of the increased research work on the subject and also through the increased application of it as a management tool. It is obvious that knowledge management is now recognized as a valuable intangible asset in its own right and it is key for decision making and strategy building; the effective exploitation determines success for banks.

The Oxford Dictionary defines a bank as "an establishment for custody of money, which it pays out on customer's order". In other words, a bank is a financial institution which deals with deposits and advances and other related services. It receives money from those who want to save in the form of deposits and it lends money to those who need it. With reference to the local setting, the Banking Act, 1970, of Ghana (Act 339, Section 47), defined a bank as any banking enterprise (whether foreign or Ghanaian) which is issued with a license to carry on the business of Banking. Section 47 of the Act goes further to define the "business of banking" to cover the following:

- The acceptance for lending or investment purposes, deposit of money from the public, repayment on demand and withdrawal by cheques, drafts or by other means"
- The financing, whether in whole or in part, by way of short, medium or long-term loans or advances of trade, industry, commerce or agriculture.

Investments in KMS in Ghanaian banks have become more of a necessity for the following reasons:

- i. Globalization of the market in which most banks operate.
- ii. Transformation of many of the world's economies to full-fledged knowledge-information based economies.
- iii. Information overload/explosion; stores of information and knowledge all over the world are estimated to double every five years.
- iv. The revolution of the conception of knowledge from being a "necessary evil" to become a strategic resource that banks can use to gain competitive advantage to promote survival and prosperity of an industry.

PROBLEM STATEMENT

The lack of research on Knowledge Management Systems in Ghana has created a knowledge gap in knowing the impacts of KMS on the banks performance. This study is therefore to fill the gap in knowledge and in literature on the impact of KMS on the banks performance and answer the question of “What are the impacts of KMS on the banks performance?”

PURPOSE OF THE STUDY

The main purpose of the research is to determine whether the investments made in KMS have helped the banks to gain competitive advantage or not, and the extent to which the KMS have helped the bank to achieve their objectives.

OBJECTIVE:

The objectives of the study are to determine and evaluate:

1. The structure and nature of the KMS in use at the banks
2. The type of data captured and processed in the information system,
3. The extent to which the KMS have helped the bank to achieve its objectives,
4. The impact of the KMS on customer service and staff performance.

THE RESEARCH QUESTIONS

1. How does the KMS operates in the banks
2. What are the impacts of the KMS on the banks:
 - a. Data capturing and processing,
 - b. Performance,
 - c. Corporate image,
 - d. Customer services.

LITERATURE REVIEW

Knowledge

The definition of knowledge is complex and controversial and can be interpreted in many different ways. It is used interchangeably in practice as well as in literature, with intangible assets, capabilities, core competence or even skills (Chaudhary, 2005:16). Hey (2004:10) explain that the part of knowledge that is more easily definable involves the accumulation and assimilation of multiple pieces of information, once again providing structure to it in the form of relationships between the information, and internalizing, or personalizing that knowledge by bringing it from the outside ‘in’ to the mind. McNabb (2006) also explained that knowledge is accumulated, organized and integrated and held over a longer period. It is the fact or condition of knowing something with familiarity gained through experience or association. It is found in contextual, relevant and actionable form. Frost (2014) presented a definition of knowledge based closely on the definition by Davenport (2008): knowledge as a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers.

Hara (2000:8) took a social constructivist paradigm: knowledge (knowing) is viewed as both an individual and a social process because knowledge is constructed individually and collectively. According to Hara (2000:8), the knowing is a process of gaining situated understanding that a person or a group of people have acquired through experience in social contexts. This type of knowledge includes know-how, which is directly related to competitiveness and productivity of an organization for the most of the time although it may be transient and incomplete.

Nazari (2012:23) on his part identifies three (3) frameworks to explain knowledge. Thus:

1. Knowledge is connected. It exists in a collection (collective wisdom) of multiple experiences and perspectives.
2. Knowledge is a catalyst/action. Knowledge is always relevant to environmental conditions, and stimulates action in response to these conditions. Information that does not precipitate action of some kind is not knowledge. ie. Knowledge for the most part exists only in application.
3. Knowledge is applicable in un-encountered environments. Information becomes knowledge when it is used to address novel situations for which no direct precedent exists. Information that is merely “plugged in” to a previously encountered model is not knowledge and lacks innovation.

Knowledge Management (KM)

According to Jarcho (2012), you cannot manage knowledge. 'Knowledge is between two ears, and only between two ears.' To that extent, it's really about what individual workers do with the knowledge they have. When employees leave a company, their knowledge goes with them, no matter how much they have shared (Kotzer, 2001). Due to this, Lee (2012) supported the notion expressed by Nonaka (1994) that "Knowledge Focus" or "Knowledge Creation" are better terms, because they describe a mindset, which sees knowledge as activity not an object.

However, KnowledgePoint (2014) believes that both knowledge that reside in persons and systems can be managed as organizational assets, object & processes and as such will require a massive human effort. In concurring with this argument, Frost (2012) explained that technologies help to capture, process, manage, store, and disseminate knowledge. KnowledgePoint (2014) revealed that the management involves organizational processes. Managing it requires turning personal knowledge into corporate knowledge that can be widely shared throughout an organization and appropriately applied. Thus, knowledge is increasingly being recognized as a crucial organizational resource that gives market leverage. Its management is therefore too important to be left to chance.

According to Wilson (2002), KM involves both personal and systems, and it can be managed by:

1. Encouraging information exchange among staff. For example, through formal and informal networking and training;
2. Building intranets to provide access to information resources;
3. Creating 'yellow pages' or indexes to expertise; and
4. Creating newsgroups for employees to encourage information exchange.

KM therefore implies a strong tie to organizational goals and strategy, and it involves the management of knowledge that is useful for some purpose and which creates value for the organization (Frost, 2012). It provide the precise tools, people, knowledge, structures (teams, etc.), and culture to enhance learning (Hussain et al, 2004). Frost (2012) again states that KM understands the value and applications of the new knowledge created; store this knowledge and make it readily available for the right people at the right time; and continuously assess, apply, refine, and remove organizational knowledge in conjunction with concrete long and short term factors.

Some basic definitions of knowledge management are:

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|---------------|---|
| Kundus (2013) | A multi-disciplinary approach of achieving organizational objectives by making the best use of knowledge. It focuses on processes such as acquiring, creating and sharing knowledge and the cultural and technical foundations that support them. |
| Frost (2012) | Knowledge management is the systematic management of an organization's knowledge assets for the purpose of creating value and meeting tactical & strategic requirements; it consists of the initiatives, processes, strategies, and systems that sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge. |
| Warier (2009) | The process of creating, capturing, and using knowledge to enhance organizational performance. |
| Reddy (2007) | KM is a business process that promotes the collaborative and integrative approach to the creation, capture, organization, access, dissemination, and use of information assets, including the tacit, uncaptured knowledge of people and formalizes management and leverage of a firm's intellectual assets. |

Thus KM is to achieve four major objectives which include:

1. **To create knowledge repositories**, which store both knowledge and information, often in documentary form such as:
 - a. Those which include external knowledge, such as competitive intelligence.
 - b. Those that include structured internal knowledge, such as research reports and product oriented marketing materials, such as techniques and methods.
 - c. Those that embrace informal, internal or tacit knowledge, such as discussion databases that store "know how".
2. **To improve knowledge access and transfer**. Here the emphasis is on connectivity, access and transfer. Technologies such as video conferencing systems, document scanning and sharing tools and telecommunications networks are central.
3. **To enhance the knowledge environment** so that the environment is conducive to more effective knowledge creation, transfer and use. This involves

- a. Tackling organizational norms and values as they relate to knowledge.
 - b. Increase awareness on sharing knowledge embedded in client relationship and engagements.
 - c. Provide awards for contributions to the university's structured knowledge base.
 - d. Implement decision audit programs in order to assess whether and how staffs are applying knowledge in key decisions.
 - e. Recognize that successful KM is dependent upon structures and cultures.
4. **To manage knowledge as an asset** and to recognize the value of knowledge to an organization (Davenport & Prusak, 1998).

Knowledge Management Systems (KMS)

The issue of knowledge management systems has probably always been the most discussed and debated topic within KM. Even though KMS are not the most important part of KM, this is still the subject that generates most interest (Frost, 2012).

Some basic definitions of KMS are:

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|-------------------|--|
| Frost (2014) | Any kind of IT system that stores and retrieves knowledge, improves collaboration, locates knowledge sources, mines repositories for hidden knowledge, captures and uses knowledge or in some other way enhances the KM process |
| Girard (2013) | The strategies and processes designed to identify, capture, structure, value, leverage, and share organization's intellectual assets to enhance its performance and competitiveness |
| Yukikaze (2012) | A system (generally IT based) for managing knowledge in organizations for supporting the creation, capturing, storage and dissemination of information. It can comprise a part (neither necessary nor sufficient) of a KM initiative |
| Techopedia (2011) | A system for applying and using KM principles. These include data driven objectives around business productivity, a competitive business model, business intelligence analysis, and more. |

Knowledge Management Systems from Technological Perspective

The technological aspects of KM are the tools that facilitate the creation, organization, storage, transfer and sharing of knowledge in the organization (Gupta & Sharma, 2005). These tools support and improve the KM processes and application, and process and generate value from their intellectual and knowledge-based assets. Most often, generating value from such assets involves sharing them among employees, departments and even with other companies in an effort to devise best practices (Frost, 2012). In other words, KMS are repositories of knowledge from a collection of experts, organized in a manner such that it can be easily accessed (Chandran & Kavitha 2009).

From Bali et al (2009), these technologically based tools include groupware systems & KM 2.0, the intranet and extranet, data warehousing, data mining, decision support systems, content management systems, document management systems, artificial intelligence tools, simulation tools, semantic networks. Young (2013) also mentioned the portal, profile, collaborative workspaces, urgent requests, document libraries, servers, databases, knowledge bases, blogs, and advanced search tools. Furthermore, Capozzi (2007) mentioned the e-learning tools and communities of practice.

Knowledge Management Systems from Non-Technological Perspective

From the non-technical perspective, KMS are those that are human and organizationally centered (Young, 2013). The focus and emphasis is on how individuals and organizations can be equipped to design and facilitate knowledge processes best. These include cross-functional project teams who are selected and assembled project specialist or expert working together for a common goal, KM training & education, and storytelling (Frost, 2012). That is, KMS are purely human centered and that it takes the human force to capture, process, store and disseminate knowledge. Reddy (2007) also explain that they are built on real knowledge sharing situations, enables individuals to gather in some of the understanding of the storyteller as well as recast the story into their own contextual work environment; hence adding their own understanding to the process. Other non-technological systems include meetings, mentorship, and brainstorming (Frost, 2012).

Banking Information System (BIS)

Banking information system covers a wide range of banking business areas, encompassing all business functions in a typical banking environment (Al-Abdullah, 2010). They are put in place to change and improve the internal operations and the management of procedures of a bank (Lucey, 2007). According to Lucey (2007), the impact of the system is not only to improve the efficiency and effectiveness of all the processes of the bank but also to create, enlarge and improve certain functions/products, which were not in existence before the information

system was inculcated into the bank. In the view of Baltzan & Philips (2009), an information system is to manage information and assets effectively and efficiently both in the short term and long term. The core products of financial institutions are trust and information. The trust is derived from the effective management of their information and how they disseminate the information to their customers/clients when needed (Alsajjan & Dennis, 2010). It therefore calls on them to be proactive (Baltzan & Philips, 2009).

According to Al-Abdullah (2010), some of the operations that a BIS supports includes: loans, deposits, guaranties, frame limits; fix transactions; domestic payment system; corporate transaction accounts; securities; factoring; counter (front office) business operations; exchange office; treasury operations; back office operations; retail transaction accounts; retail term deposits; card activities; forced debt collection; money laundering prevention; annuity savings; Internet banking; collateral instruments; general ledger; fixed assets; and payroll accounting. Alsajjan & Dennis (2010) also states that information system in banks is to enable them to analyze the relationship with each customer based on all their accounts, have a faster response time to clients need, process the banks products, process and manage staff information, credit and risk management, cash flow, and process and manage clients/customers information.

METHODOLOGY

Due to the sensitive nature of the study, the convenience sampling technique (a form of non-probability sampling) was used to collect data, which is a faster way of collecting huge number of completed questionnaires more quickly and efficiently from the banks. All the twenty-seven (27) licensed to operate as banks and listed on the website of the Bank of Ghana (Central Bank) were selected for this study. This method of sample selection enabled the researcher to do a more exhaustive internal analysis of the Banks, vis-à-vis the role of the KMS in the management of records, files and information at the Banks.

Data for this study was collected from both secondary and primary sources. With regard to the primary source, the questionnaire was used. The researcher designed and administered ten (10) questionnaires to each bank directly by visiting the banks personally. This constituted two hundred and seventy (270) questionnaires. The questionnaire consisted of both open-ended and close-ended questions. The closed-ended questions were designed on a five point-Likert scale having options 1 to 5 in which 1 stand for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. The researcher was able to retrieve all the 270 questionnaires distributed. After the data collection, the SPSS version 20 was used to analyze the data for presentation and findings.

SUMMARY OF RESEARCH FINDINGS

The study examined the extent to which investments in KMS have helped the Ghanaian Banks to achieve its objectives and goals; whether this has helped or improved the corporate image of the banks or enabled it to gain competitive advantage in the banking sector. From the analysis, the following findings have been drawn.

General characteristics of the population and respondents

Out of the total number of respondents, 69.1% were male whilst 30.9% were female. Similarly, 58.2% of the respondents were between the ages of 21 and 30, 38.2% were between the ages of 31 and 40, whilst 3.6% were within the age range of 41 and 50. Again, 61.2% of the respondents were Bachelor degree holders, 16.4% were Master's degree holders, and the rest (22.6%) holds various professional certificates and diplomas such as ACCA, CIM, CIMA, HND, etc. 85% of the data was collected from private banks (80%) and ratio of non-managers is 80% as compare to managers 20%. Most of them have worked in the organization for about 2-5 years (56%).

Use of IT by the banks in their operations

Most of the respondents (94.5%) already had practical and working knowledge on the use of computers before joining the banks. Again, 85.85% of the respondents said the banks operations and systems are automated and relies on information systems. Also, 76.8% of their operations were centered on the use and application of computers to process the volumes of data both from their clients and staff.

Data capturing and processing

The banks perform well in terms of data capturing and processing. The findings indicated that most of the data captured (collected, organized, analyzed/ processed, and stored/preserved) into the information system are clients and staff data. However, the staff appears to be reeling under their tasks due to 'data overload' and understaffing at the operations and records units.

Impact of KMS on the banks performance and operations

1. Meeting the banks objectives

Investments made in the KMS were noted to have helped in the achievement of the objectives of the banks such as to:

1. maintain their position to be more competitive in the banking industry;
2. apply the highest ethical standards with customers;
3. provide an environment conducive for teamwork and reward, which motivates employees to provide the highest level of customer services;
4. demonstrate good corporate citizenship in the country;
5. enhance and improve their corporate images; and
6. become the standard for other banks in the banking sector in the country

Conclusion

Ghanaian Banks continue to invest in the implementation of KMS. The study sought to examine whether the investments are worthwhile. The KMS are the heart of the bank. It is responsible for the tracking and the management of the bank's operations both internally and externally. The other departments/units of the banks, to a large extent rely on the KMS. The KMS thus handles both front and back office operations and transactions. It also handles both clients and staff data and records.

Even though most of the staffs were already computer literates before their appointments at the banks, they were re-trained by the banks to be able to effectively use and operate the KMS.

The successful story of investment in KMS by the Banks will encourage other organizations to embark on such investment with the view of alienating their processes with business objectives and goals.

The conclusion reached is that investments in KMS enables the banks to achieve their objectives and helps it gain a better corporate image and improved performance.

This research work therefore contributes towards the provision of literature on the essence and importance of periodic evaluation of investments in information systems and bridging the information gap for planning, decision and policy making in banks.

Recommendations

Based on the findings, the study makes the following recommendations which should further enhance the efficiency of any bank or financial institution embarking on computerization.

a. Technology

Most investments in KMS are technology-led, addressing too narrow an agenda and reflecting too technical on it emphasis (not user friendly, thus one need special or technical knowledge to fully operate it).

1. It is recommended that investments in KMS should, therefore, be client-centered or user-oriented, reflecting the needs of the users who are the staff of the organization. Organizations should successfully attend to the non-technical aspects that are the human and organizational aspects of changing technology and operations.
2. It is recommended that the integrated approach to the organizational and technical change should be adopted. The new technologies should be organized and designed to suit the needs and requirements of the clients, staff, and changing societal and competitive environment.

b. Systems Implementation

1. It is recommended that managers and users should be initially involved in the installation and implementation of the information systems.
2. In particular, it is recommended that enough attention should be paid to the impact of the new and evolving technologies on organizational structures and processes or on job designing.

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