



CHALLENGES FACING THE IMPLEMENTATION OF CLEARING SYSTEM UPGRADE PROJECTS IN KENYA: A CASE STUDY OF THE DIRECT DEBIT AUTOMATION IN SELECTED COMMERCIAL BANKS

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Abstract: Banks nowadays are faced with enormous challenges such as very fierce competition among the financial institutions, knowledgeable customers who are very demanding, thus calling for the development of new products and delivery of more varied and complex delivery channels. Faced with such challenges, banks have no other choice other than to modernize both their operating models and technology components if they are expecting any growth. If they do not do so, they will have failed in terms of satisfying customers, maintaining revenues and profits as well as pleasing the shareholders. The primary purpose of this study was to investigate the challenges facing the implementation of clearing system upgrade projects in Kenya. The study specific objective was to examine and evaluate how project planning, resource management, stakeholders' participation and communication systems affect the implementation of clearing system upgrade projects in Kenya. The study employed a descriptive survey design. The target population was 110 respondents comprising of both the clearing and IT departments staff from selected commercial banks in Nairobi. A purposive sampling method was used to select the clearing and IT staff as they were considered to have the required information to meet the objectives of the study. Questionnaires were used in data collection, and they were administered via drop and pick method. Collected data was analyzed using descriptive statistics aided by Statistical Package (SPSS version 21), and the presentation of the results was in the form of frequency tables, pie charts, percentages and bar charts. The study found that communication systems had a positive and significant influence on the implementation of clearing system upgrade projects ($\beta_1=0.465$, $p\text{-value}=0.000$). In addition, the study found that stakeholder participation has a positive and significant influence on the implementation of clearing system upgrade projects ($\beta_2=0.385$, $p\text{-value}=0.000$). The study also found that resource management has a positive and significant influence on the implementation of clearing system upgrade projects ($\beta_3=0.218$, $p\text{-value}=0.010$). Lastly the study found that project planning has a positive and significant influence on the implementation of clearing system upgrade projects ($\beta_3=0.506$, $p\text{-value}=0.000$). Based on the findings, the study recommends that since resources are vital to projects of such nature, the management should make sure there are enough and well-trained personnel to carry on such projects. Also planning should be done before the commencement of such projects so that each and every one is briefed of the scope, objectives, and strategies to be employed during the project. In conclusion, further studies are called for as the study did not encompass all the banks in Kenya and feedback should be sought from other stakeholders such as customers and the project implementers' such as Kenya Bankers Association and Central Bank of Kenya.

Key Words: Communication, Participation, Resource Management, Planning, Project Implementation

Introduction

According to Nduati (2015), it is with no doubt that innovation in the financial services industry to very great extent contributes to an efficient and effective payment, clearing and settlement system. The innovation at the end of the day leads to an enriching customer experience that result in the satisfaction of the public good. In Kenya, the payment system is subdivided into four broad categories; KEPSS (Kenya Electronic Payment and Settlement System) usually for processing transactions above the capping of cheques and electronic transfers, ACH (Automated Clearing House) for clearing of cheques and EFTs, Payment Card Infrastructure and Mobile Payment Platform. A healthy banking industry is critical in every country, and Kenya is no different as it aids in supporting economic growth through efficient financial services (Padmanabhan, 2011). Banks cannot function well without core banking systems as they are the heart of all the systems operating in a bank and clearing system is one of them. With the advance in technology nowadays banks are opting for core systems which cover more and more functionalities. A bank's clearing system is a system used to settle payments among banks.

Due to technological innovations, banks have automated their clearing systems. In Kenya, it started with the automation of cheque through the CTS system, with cheque images being presented to the payer bank for settlement. All this happens through a clearing house and in Kenya we have the Nairobi Clearing House. For a bank to participate, it has to be a member. With the benefits of the automation of cheques, CBK and KBA have authorized the automation of Direct Debits. A Direct Debit is simply an instruction from you (the customer) to your bank, which allows the person you want to pay to collect the agreed amounts from the account but only after you have been notified in advance. It is initiated by the individual or organization which needs the payment and once agreed the money is deducted automatically. Simply put it is the simplest and most convenient way for anyone to pay regular and occasional bills. Direct Debiting is a fast, efficient and accurate means of collecting payments thus providing greater certainty and business planning. There are several benefits associated with direct debits, and they include; reducing administration costs in the bank, flexible and convenient, comfortable and secure audit and security, increased efficiency, one off maintained record among others.

Banks clearing system has evolved/developed since the establishment of the clearinghouse. The clearing system can be traced way back to the first clearing house in the United States founded by the New York City commercial banks in 1853 to help streamline the clearing and settling of checks. Before the establishment of the clearinghouse, clearing and settlement procedure entailed movement of employees across the streets from different banks to go and present the cheques, a process which was very time consuming, full of disputes and blunders. But with the establishment of the clearinghouse results were found like immediately, they ranged from saving in time, financial costs and much effort (Bennett, 2014).

According to Jung (2012) in the United States Clearinghouses and clearing systems are key institutions in their financial markets. The systems include processing both wholesale and retail funds transfer between institutions, individuals or organizations, and individuals. At wholesale there is bulk settlement while at retail level non-cash payments are processed via cheque clearing systems, automated clearing houses (ACH) credit and debit card networks. In the United States, the National Settlement System (NSS) provides the electronic mechanism platform to enable files submission to the Federal Reserve Bank. The settlement files contain the list of all participants, settlers and the amount to be debited or credited and for the records to be valid, the debit and credit must be equal.

The East African Community (EAC) is five partner states that are Kenya, Uganda, Tanzania, Burundi, and Rwanda. The five partner states have different payment and settlement systems, and they are in the process of integrating the payments systems within the EAC (Ngui, 2015). The integration of the systems will create sound foundation thus ensuring that payment obligations among the states are settled effectively, efficiently and timely. Thus, a good clearing technological system is vital in ensuring that the already existing systems are accommodated as well allow for development of additional products and services. The integration of the clearing systems will facilitate the integration of the member states as they embark into a single monetary area thus enabling efficient payments within the EAC Region. The system will contribute to the more secure, safe and timely manner of transfer of funds among the state's leading to free movement of capital within the region. It will also lead to expanded financial inclusion.

Jung (2011) states that in Tanzania, the National Payment System has continued to provide an efficient customer centered payment system with the most important instruments including; cheques, RTGS, EFT, TT among others. In Tanzania, there has been no clearing system, this has been because cash transactions have been the dominant mode of payment with little use of cheques and telegraphic transfers. In 1996 Tanzania sought for a modernized payment system project with its principal objective being modernizing the country's clearing and settlement system and attain internationally acceptable best practices. Another objective was to speed up the settlement of funds and migrate from cash to cashless mode of payment. With the improved clearing system in Tanzania, documents are processed using the MICR technology, processing of EFT and interbank settlements. Tanzania banks now process cheques, banker's cheques, EFTs, among other settlements. Nowadays there is Dar Es Salaam Bankers Clearing House (DBCH) established in 1993 with the primary objective being a quick clearing of cheques of the members of the clearing house. On the other hand, in Uganda, the Bank of Uganda hosts and facilitates the clearing house-Kampala Clearing House (KCH)- where clearing banks present and settle all non-cash instruments ranging from cheques, direct debits, drafts and electronic transfers. Bank of Uganda through its Electronic clearing system it receives all clearing data from commercial banks via a secure electronic protocol and once processed the same is transmitted back (Barney, 2015).

Despite the benefits of the improved systems the banking industry has seen lots of challenges when it comes to core banking system changes. Many of these challenges have been caused by lack of proper mechanism for management of projects as most organizations concentrate on the project formulation at the expense of implementation (Kenya Bankers Association, 2013). The consequences of improper implementation of banking systems have led to stoppage of the roll-out of new systems midstream for fear of losing their customers. Other banks have had to incur exorbitant costs in trying to procure expertise to fix post-go live problems while others still have had to incur serious losses due to the bugs inherent in their system which have led to customer losing funds thereby instituting legal cases in the courts of law seeking compensation. These challenges have left the industry in shock as most of the banks have continued to rely on their current systems even beyond their "sell-by-date."

Studies have shown that changing or modifying a banking system is a big challenge to banks. Rono (2012) did survey on core banking replacement and performance in commercial Banks in Kenya; the study found out that banks faced challenges such as security issues, the risk of software capability, data migration and vendor capabilities. During his research on factors influencing implementation of Core Banking system Projects Ngui (2015) established that risk management, vendor selection, process, and control risk analysis to be some of the factors influencing system implementation.

During their studies in UAE's direct debit automation project, Ndoumbe (2012) realized that banks were resistant to the upgrade despite the benefits of the new system, the reason being existing system adaptability, resource management, cost implication as well as planning mistake. This research aimed at establishing the challenges facing effective implementation of the clearing system upgrade projects. Thus, the research was informed by the fact that literature is missing in this area to inform the industry on the challenges facing effective implementation of the clearing system upgrade projects and it will be a learning lesson to the banks for any future system implementations. The purpose of study was to determine challenges facing the implementation of Clearing System Upgrade projects in Kenya.

The specific objectives of the study included;

- i. To determine how communication system affect the implementation of clearing system upgrade projects in Kenya.
- ii. To evaluate how stakeholder participation affects the implementation of clearing system upgrade projects in Kenya.
- iii. To find out how resource management affects implementation of clearing system upgrade projects in Kenya.
- iv. To find out how planning affects the implementation of clearing system upgrade projects in Kenya.

Theoretical Review

This study was anchored on four man theories: organizational information theory, stakeholder theory, resource-based theory and theory of change.

Organizational Information Theory

According to Cegielski & Jones-Farmer (2012), this theory is concerned with how organizations or firms process the information they have to make sense. It further explains how individuals in a company communicate any vital information amongst them in the effort to guarantee efficiency and success in their environment. It makes use of a Living Systems Metaphor to help understand how an organization handles the information. Just like human's body, organizations have different systems which regulate and control it as a whole which help it to deal with the information thus achieving its goals and functions effectively. Organizations face challenges as they strive to manage large amounts of information they have. It is in this regard Karl Weick developed an approach which helped in understanding how firms gather, administer and use the information they receive (Weick, 1979). According to this theory communication of any information is key in determining the success of an organization. It is critical for an organization to have effective communication as it ensures information is conveyed and received efficiently with the intended meaning not altered or distorted. Effective communication ensures that message is not wrongly interpreted, contents not ignored, content is clear and compelling, random thoughts are not passed on to others. This theory guides in the understanding of the research question on how communication system affects the implementation of clearing system upgrade projects in Kenya. It thus supports the variable of the communication system by highlighting the advantages of having good and clear communication systems and disadvantages of poor communication systems.

Stakeholder Theory

According to Roeder (2013) stakeholder in any project includes any individual, group or an organization who may affect, get affected or even perceive itself or themselves to be affected by a

decision, an activity and even the outcome of the project. Donaldson (1995) defines an organization as a grouping of stakeholders with its sole purpose being to manage the interests, needs, and viewpoints of the stakeholders. In this case, the stakeholder management is fulfilled by the managers of a firm whom on the one hand manage the business for the benefit of the stakeholders while ensuring their participation in decision-making as well act as stockholders' agent who strives to ensure the survival of the company in the long run. According to the theory, Freeman argues that any firm's managers are not only liable to shareholders or stockholders i.e. anyone who owns shares or stand to gain financially but rather to whom he calls the 'stakeholders.' According to Freeman stakeholders is anyone who has any stake whatsoever in any business meaning any actions by the firm will affect them. They include not only the shareholders but also the employees, customers, suppliers and often the entire community. He expounds with the following instances; as for stockholders, their money is at stake, as for employees their jobs, livelihood, happiness, well-being is at stake, while for suppliers their money and business continuity are at stake, customers' needs and well-being is as well at stake.

Given the above facts that all are affected, Freeman believes that any firm or business has an obligation to all its stakeholders. His primary emphasis is on how to manage and integrate the relationships and interests of not only the shareholders but also the stakeholders such as the employees, customers, suppliers as well as the community and any other groups that guarantee the long-term success of the organization (Donaldson, 1995). This theory is, therefore, important when addressing how stakeholders' involvement influences successful project upgrade. This is because stakeholders are the ones who conceive project ideas, initiate the projects, plan, set and approve the budget, form the project team, support or resist the project among other roles. This theory supports the variable of stakeholders' engagement by highlighting the importance of involving and disadvantage of not involving all the project stakeholders. Thus, guides in the understanding the research question on the extent in which stakeholders' involvement affects the implementation of clearing system upgrade projects in Kenya.

Resource-Based Theory

This model sees resources as key to superior firm performance. According to Barney (2014), Resource Based View looks at how an organization succeeds or fails in the market. It looks on the resources and capabilities that reside within the organization, whereby resources are the inputs into the production process which entail capital equipment, skills of employees, reputations among others. Resource allocation entails the process whereby an organization determines how well to distribute its output factors among the various productive activities in which it is engaging, or it will be engaging (Bower, 2014). The factors are and not limited to economic, social, political and technical considerations. Organization resources and capabilities determine any firm's ability to innovate or adopt new systems and products. As such an organization's resources both tangible (equipment, cash, property, physical assets, etc.) and intangible (knowledge, skills, reputation, culture, etc.) are the inputs needed such that when combined with capabilities they come with innovations or adopt into innovations quickly. It supports the fact that availability of finances can help in expanding a firm's capacity to support its innovations with the lack of finances limiting the level of innovation. As well also, technical resources like production equipment, IT systems also influence innovation in a firm.

It is in this view we conclude that projects experience resource management issues that are major as a result of processes and activities within the project life-cycle. As a project manager, having the ability to determine the actual labor and expertise required to perform certain project activities, knowledge on how to motivate an employee to give the best is always ideal for a project manager as this reduces the chances of assigning wrong or inadequate labor and skills to a project. This theory thus guides in the

understanding of the other research question on how resource management affects the implementation of clearing system upgrade projects in Kenya. Thus, this theory supports the variable resource management by highlighting how crucial resource management is to any project.

Theory of Change

According to Rodgers (2014), the theory of change tries to explain how activities are carried out to produce a series of results which contribute to achieving the ultimate intended impacts. The theory is so flexible such that it can be developed to guide an event, a project, policy or even an organization. It helps develop interventions, where objectives and activities can be identified and carefully planned before hand as well assist in the adaptation of any emerging issues and to decisions made by partners and other stakeholders. The theory of change establishes a context to consider in connecting a systems or a firm's mission, strategies and actual outcome of the activities while still creating links of who is being served, the strategies or activities being implemented and the desired outcomes. Project planning can be a very tasking activity even for the experienced managers or even when the goal is very clear. Thus, a theory of change was developed as a tool to help think through the steps from the situation to the goal. It helps describe the project in detail, the activities to be involved, the results you want to achieve, assist in determining gaps, in short, it creates a logical framework of a project. CARE International (2012), points out that, the theory of change clarifies the project logic as it tackles any faulty assumptions, identifies right people to work with, highlights ineffective activities, etc. When a project does not flow in a logical way, project scope is bound to be affected, and there will be a lot of inefficiencies, lack of control, delays, meaningless and unworkable schedules, underuse of resources among others. This theory, therefore, helps in the understanding of the research question on how project planning affects the implementation of clearing system upgrade projects in Kenya.

Conceptual Framework

According to Cargan (2007), a conceptual framework provides a clear concept of the areas in which meaningful relationships are likely to exist. It works with the project goal to justify the study. It is a pictorial or diagrammatic representation of the relationship that exists between Independent variable and dependent variable.

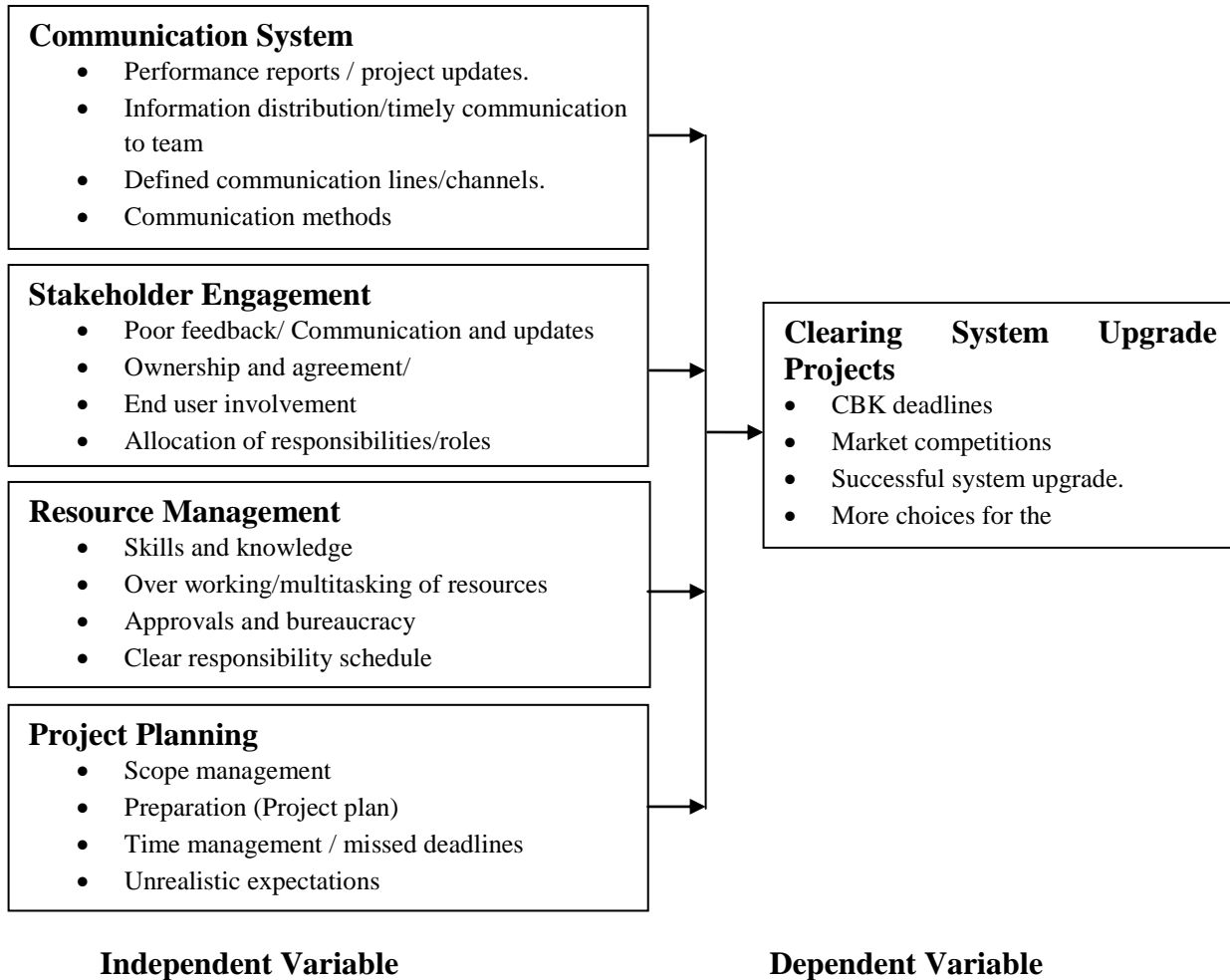


Figure 1: Conceptual Framework

Communication Systems

For any project to succeed and be visible throughout its lifecycle, then communication is inevitable. The communication plan documents all the information you intend to pass on about the project activities. The information captures the task schedules, action items, milestone progress, deliverables and their status, meeting minutes, outcomes, vendor communication among others. Unfortunately, in many cases, this is never achieved, as emails go unread, reports are never given unless during a crisis where the team tries to retrieve any communication. This affects the project as specific information loses timelines quickly.

As much as people may say project failed due to lack of understanding, shortage of human resources, use of unfamiliar tools and technical requirements, all this, if looked critically, are caused or can be pegged to lack of effective communication (Dutta, 2015). Status reports are inevitable for a successful project. They bring all the concerned people to the common level of understanding and awareness, as people focus on problem areas as they raise suggestions on the way forward. Therefore, communication reduces misunderstanding as sharing of knowledge keeps everybody involved in the project up to date on the progress of the project. Communication aids in avoiding things like being

surprised the last minute. The other issue with communication is not updating on the status of the project. During their studies in Nigeria's government projects, Damoah (2015), concluded that it is necessary to include all necessary information to reflect the actual status of the project. Indicate the accomplishments, issues, what's pending, what's changing, timelines and such. If you need any extra resource communicate early enough and keep on reminding them in case, they need to restructure their working schedule.

Stakeholders Participation

According to Roeder (2013) stakeholder in any project includes any individual, group or an organization who may affect, get affected or even perceive itself or themselves to be affected by a decision, an activity even the outcome of the project. In the clearing system upgrade projects, we have stakeholders like, the bank's staff, system suppliers (Sybrin System), CBK, KBA, banks management and customers just to mention.

Stakeholder engagement aids in avoiding imposing decisions or solutions especially to the team. From the study, they had some lessons to learn which included as a manager you should be able and be devoted to building consensus particularly when stakeholders have different interests in the project. He/she should have a management plan, relevant knowledge, and authority to harmonize the stakeholders' discordant voices. In the Direct Debit Automation, the clearing team, the bank managers, CBK, KBA should be in agreement regarding timelines, visions, what and when to be achieved, this will make the financing of the project easy, the team will be available, and suppliers will be well informed. They also came up with steps to effectively manage the stakeholders.

During their studies in the UK construction industry, Ben (2011), found out that since different stakeholders have different skills and knowledge, their contributions to the project also differ and so is their relationship to the project. It is key for the project objectives to match with the stakeholder's responsibility and skills as well. Various researchers have come into agreement that many project failures are not due to lack of or ineffective project management practices but due to inappropriate social interactions between the project stakeholders (Missonier & Loufrani-Fedida, 2014). Stakeholder involves not only communication with them but as well engaging and developing relationships with them. Due to increased cases of community protest and opposition of construction project in Niger Delta, Ekung, Okonkwo & Odesola (2014) set to investigate why the stakeholders were reacting that way. Through interview and questionnaires administered to 186 respondents, they found out that lack of information disclosure, participation style, vested interests and lack of stakeholder involvement were some of the factors causing opposition from the community.

Resource management

It is very common to see organizations across industries trying to deliver increasing number of projects while trying to maintain a flat or a decreasing budget and resources. In such an environment, the only possible outcome is project failure. The scenario is not different in the banking industry in Kenya, as banks are trying to use the same resources in the bank, trying to overwork employees, having employees work overtime to achieve the deadlines without any additional cost. Many are the incidences where projects start without any written scope definitions. It is only after a project has commenced that a briefing is done on what is expected of the team besides their regular daily duties. It is fundamental to have a clear understanding of the project scope by the stakeholders, team members and the executives alike.

According to Ren (2014), resource management involves deployment and acquisition of both internal and external support necessary to deliver a project. They include but not limited to; machinery, materials, technology, people and anything else required for performing the work. According to Olson (2013) without sufficient resources or having improper resources, the project is then at risk to deliver as expected in the scope, complete on time or even stay on budget. This, in turn, makes the team members feel pressured to achieve the unrealistic goals with the lack of resources. Insufficient resources always prevent the team from achieving the project goals. In most instances, they are due to lack of adherence to the original estimates and commitment, availability of team members, organizational changes like cutting on a budget, providing individuals without sufficient experience and individual with a lack of skill. Damoah (2015) found the following to be the most reason as to why projects failed; lack of finances due to late approvals and bureaucracies, as well as the poor allocation of funds, overworking of resources, lack of monitoring among others. Staffing is one of the most critical elements of a project success, and without staffing, there is no project. Once you have defined your project, then you can determine your staffing needs and as well get individuals get assigned to your project. Many are the cases where current staffs are expected to do their daily roles and as well commit to run the project.

Project Planning

Planning to any project setup sets a stage by helping the project manager and the team to establish where it wants to go regarding its objective, and how to get there regarding strategies and tactics. Thus both the goals and strategy are the outcome of planning. Planning is an important contributor to project success. A Project Plan is a formal, approved document used to manage and control a project during its execution. It defines what, why, who, when and how of a project. It helps internal and external organizations understand what they will need to do and when. Symonds (2015), reports poor estimates which usually happen during initial project planning to be one of the largest contributors to project delays and even failures.

During his various case studies in predictable project failure Conway (2011), found out that poor planning is the most common reason for a project not delivering as expected. For instance, in the case of Denver airport baggage handling system, where they were trying to establish an integrated automated baggage handling system with a timeline of opening it in 1993, several issues were raised. Poor planning was one of them; the construction of the airport had already started even before the plan for the baggage system had been finalized. It is then later in the project they realized that the building was unsuitable for the baggage system. As well there were scope changes, which included changes in the scope during both planning and even execution phase leading to technical difficulties. Management changed the plans and timetables without consulting the contractor and the airlines. Thus failure to lock down the scope early resulted in an inability to deliver the requirements according to scope.

Clearing System Upgrade Projects

A bank's core banking renewal/upgrade/replacement project, other than being expensive, is risky and costly for any bank to undertake. However, core banking renewals and upgrades are gradually becoming necessary, and banks can no ignore (Bieg, 2014). Banks across the globe face enormous economic and regulatory challenges. With new competitors and new platforms, customers are being wooed to non-traditional business model a fact which can sideline banks altogether. Banks core systems are very expensive and can add up to 40% of overhead expenses. With the competing world, today banks need to meet market threats, and opportunities and core systems cannot be allowed to block innovations. With the upgrades of systems, banks can have streamlined operating environment

which is more flexible thus eliminating redundancies and costs, can have an automated operating environment where back office performance is improved, and workflows are real time.

According to studies done by IBM Center for Applied Insights (2011), large Colombian bank centralized its time-consuming and risk prone loan management process and dropped its processing time from 17days to 30 minutes. Banks system upgrades are usually because of cost reduction where many stand-alone applications are consolidated. Also, there is regulatory compliance, increased completion, evolving technology among others.

Research Methodology

Descriptive survey research design was adopted to investigate challenges facing effective implementation of Clearing System Upgrade projects. A cross section of selected commercial banks was surveyed, thus making a choice of the cross-sectional study design. The target population was the Clearing and the IT staff in the 42 banks in Kenya. The study population targeted the Clearing and the IT staff in selected commercial banks in Nairobi Kenya. Out of the 42 commercial banks in Kenya by the year 2016, 20% were selected for inclusion in the sample size. The 8 commercial banks selected were selected from the 3 tires of commercial banks in Kenya. Mugenda and Mugenda (2003) indicate that 10 and 30 per cent sample size is a good representation of the target population. The study adopted a purposive sampling technique to select the clearing and the IT staff in commercial banks in Kenya. These people were deemed influential in their bank's clearing system hence their suitability to produce useful and varied information on the challenges affecting implementation of Clearing System Upgrade projects. The IT staff have sufficient knowledge on the particular bank's system upgrades, Clearing staff were the ones handling the project thus guiding the delivery of the overall project regarding scope, timelines, schedules and their experiences is valuable hence their use as the target population.

Table 1: Sample Size

Selected Banks	Sample size	Percentage
ABC Bank	15	13.5
Co-op Bank	20	18.2
Habib AG Zurich Bank	5	4.6
Equity Bank	20	18.2
Bank of Baroda	10	9.2
KCB	20	18.2
Family Bank	15	13.5
Bank of India	5	4.6
Total	110	100

Questionnaire was the main instrument in collecting primary data in this study. The questionnaire was organized according to the objective of the study via semi-structured and open-ended questions. The questionnaires were checked for completeness, coherence, and consistency. Collected data was coded and imputed into the Statistical Package for Social Scientists (SPSS version 21) for descriptive statistical analysis.

Descriptive and inferential statistics was used to analyze quantitative data. To establish the relationship between the dependent and independent variables, multiple regression analysis was employed. Data presentation was done with the aid of frequency tables, graphs, and pie charts. The multiple regression model was applied as below to establish relationship between the independent and dependent variables:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where; (Y) is the value of the Dependent variable (Clearing System Upgrade Projects); β_0 (is a constant); $\beta_1, \beta_2, \beta_3, \beta_4$ (are the coefficient of the independent variables); X_1 (Communication System); X_2 (Stakeholder Participation); X_3 (Resource Management); X_4 (Planning); ε (Standard error).

Data Findings, Analysis and Discussion

The researcher distributed a total of 110 questionnaires to the respondents and received only 76 back giving a response rate of 69.1%. This response rate was good enough and representative and conforms to Mugenda and Mugenda (2003) where it states that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good enough, and a response rate of 70% and over is excellent. 30.9% non-response rate can be attributed to strict privacy in the banking industry.

Descriptive Analysis

Communication Systems and Channels

The respondents were asked to indicate to what extent communication systems and channels did affect the implementation of clearing systems upgrade projects. From the findings, up to 43.2% of the respondents agreed to very great extent that communication systems and channels did affect the implementation of clearing system upgrade projects. 39.8% agreed to great extent that communication systems and channels did affect the implementation of clearing system upgrade projects, while 17% agreed to a moderate extent.

Table 2: Effect of Communication Systems and Channels on Project Implementation

	Frequency	Percentage
Very great extent	33	43.2
Great extent	30	39.8
Moderate extent	13	17.0
Little extent	0	0
Total	76	100

From the findings respondents agreed the following factors are vital when it comes to communication in a project, they include; up to date performance reports and updates with 56% of respondents agreeing to a very great extent, 39% agreed to a great extent while 5% agreed to a moderate extent, information distribution with 56% of the respondents agreeing to a great extent while 44% agreed to very great extent, lack of defined communication lines and channels was also seen to affect effective clearing systems upgrade projects with 50% of the respondent agreeing to a very great extent while 50% of the respondent agreed to great extent. Communication methods were also seen to affect effective implementation of clearing systems upgrade projects with 19% of the respondent agreeing to a very great extent, 74% of the respondent agreed to great extent while 7% of the respondent agreed to a moderate extent. The response shows that communication systems and channels do affect clearing systems upgrade project greatly.

This agrees with Goudar (2010), who contends communication to be the glue that keeps together a project team and it is viewed as one of the key success factors for a successful project. It is like fuel in a car; it keeps the project running smoothly. Also, Damoah, Akwei and Mouzughhi (2015), agreed to the fact that, it is necessary to include all necessary information to reflect the actual status of the project. Indicate the accomplishments, issues, what's pending, what's changing, and timelines.

Table 3: Communication Systems and Channels Factors

Communication systems		Not at all	Little extent	Moderate extent	Great extent	Very Great extent
		1	2	3	4	5
Up-to date performance reports and updates (last communication)	Frequency	0	0	4	30	42
	percentage	0	0	5%	39%	56%
Information distribution (circulation updates from relevant stakeholders)	Frequency	0	0	0	42	34
	percentage	0	0	0	56%	44%
Defined communication lines and channels.	Frequency	0	0	0	38	38
	percentage	0	0	0	50%	50%
Communication methods (regular status meeting, forwarding of emails)	Frequency	0	0	5	56	15
	Percentage	0	0	7%	74%	19%

Stakeholder participation

The respondents were requested to indicate how stakeholder participation does affect the implementation of clearing systems upgrade projects. From the findings, 52.6% of the respondents agreed to very great extend, stakeholder participation is very key in the implementation of clearing system upgrade projects. 34.2% and 13.2% agreed to great extent and moderate extent respectively that stakeholder participation does affect the implementation of clearing system upgrade projects.

Table 4: Effect of Stakeholder Participation on Project implementation

	Frequency	Percentage
Very great extent	40	52.6
Great extent	26	34.2
Moderate extent	10	13.2
Little extent	0	0
Total	76	100

The researcher requested the respondents to rate how various stakeholder participation factors affected the implementation of clearing systems upgrade projects in Kenya. The respondents indicated that poor feedback/communication to the stakeholder including lack of up to date reports did affect the implementation of clearing system upgrade projects, with 55% of respondents agreeing to a very extent, 40% agreed to a great extent while 5% agreed to a moderate extent. Other factors were rated as below; imposing of decisions by the management with 27% of the respondents agreeing to a great extent while 73% agreed to a very great extent on its effects on implementing the clearing system upgrade project. Stakeholder Participation (management on approvals, staff on running with the project) was also seen to affect the implementation of clearing systems upgrade projects with 57% of the respondent agreeing to a very great extent while 43% of the respondent agreed to a great extent. Lack of ownership/agreement between different stakeholders was also seen to affect the implementation of clearing systems upgrade projects with 75% of the respondent agreeing to a very great extent while 25% of the respondent agreed to a great extent. Poor allocation of responsibilities to the stakeholders (who, when, how) was also seen to affect implementation of clearing systems upgrade projects with 12% of the respondent agreeing that it affected to a moderate extent, 57% agreed to a great extent while 31% of the respondent agreed to a very great extent.

This is in agreement with Chadana (2013), who clarified that, getting to know the importance and the influence of each particular stakeholders helps avoid conflicts, facilitates planning, manage their expectations regularly, not prioritizing, all this trickling down to having an accomplished team and well-delivered project.

Table 5: Stakeholder Participation Factors

Stakeholder Participation		Not at all	Little extent	Moderate Extent	Great Extent	Very Great extent
		1	2	3	4	5
Feedback/communication to the stakeholder (lack of up to due reports)	Frequency	0	0	4	30	42
	percentage	0	0	5%	40%	55%
Imposing of decision by the management	Frequency	0	0	0	20	56
	percentage	0	0	0	27%	73%
Stakeholder Participation (management on approvals, staff on running with the project)	Frequency	0	0	0	33	43
	percentage	0	0	0	43%	57%
Ownership/agreement between different stakeholders (Management-funds, IT-test the product, Vendor-provide the system).	Frequency	0	0	0	19	57
	percentage	0	0	0	25%	75%
Poor allocation of responsibilities to the stakeholders(who,when,how)	Frequency	0	0	9	43	24
	Percentage	0	0	12%	57%	31%

Resource management

The study sought to know the extent to which resource management affected the implementation of clearing system upgrade projects in Kenya. From the study findings, up to 35.5% of the respondents agreed to very great extent on the effects of resource management on the implementation of the clearing system upgrade projects. 33% agreed to great extent while 19.7% and 11.8% agreed to moderate extent and little extent respectively.

Table 6: Effect of Resource Management on Implementation of Projects

	Frequency	Percentage
Very great extent	27	35.5
Great extent	25	33.0
Moderate extent	15	19.7
Little extent	9	11.8
Total	76	100

According to the findings, the respondents indicated that lack of correct skills and knowledge gaps does affect the implementation of clearing systems upgrade projects with 87% agreeing to a very extent, 13% to a great extent. 71% of the respondents agreed to a great extent that overworking/multitasking of resources also affects effective implementation of clearing systems upgrade projects while 28% agreed to a very great extent. Approvals and bureaucracies regarding

system upgrade cost were also seen to affect the projects with 36% of the respondent agreeing to a very great extent while 63% of the respondent agreed to a great extent. Lack of clear responsibility schedule for the stakeholders was also seen to affect the implementation with 9% of the respondent said it affected to a little extent, 12% to moderate extent, 53% said to a great extent while 26% of the respondent agreed to a very great extent. These findings clearly show that resource management did effect the implementation of clearing systems upgrade projects greatly.

This agrees with Bennett (2014), who contends that having the right resource management plan as a manager helps eliminate more likely problems associated with lack or poor project planning. They include; resource conflict, under or over utilization of staff, lack of visibility of who is involved in what, training of needed staff, late approvals, insufficient staff, poor responsibility schedule among others. Bieg (2014), in his study, he established that organizations who have the necessary resources in place (people, time), as well recognize and develop the employee skills need, have better project outcomes, they meet their goals, established baselines, and complete projects on time.

Table 7: Resource Management Factors

Resource management		Not at all	Little extent	Moderate Extent	Great extent	Very Great extent
		1	2	3	4	5
Lack of correct skills and knowledge.	Frequency	0	0	0	10	66
	percentage	0	0	0	13%	87%
Overworking/multitasking of resources.	Frequency	0	0	0	54	22
	percentage	0	0	0	71%	28%
Approvals and bureaucracies regarding system upgrade cost	Frequency	0	0	0	48	28
	percentage	0	0	0	63%	36%
Lack of clear reasonability schedule	Frequency	0	7	9	40	20
	percentage	0	9%	12%	53%	26%

Project Planning

Rushing or ignoring project planning process is a recipe for failure (Nduati, 2015). Lack of planning may lead to a lack of support from the stakeholders regarding approvals, financing, resource acquiring among others. The study, sought to know the extent to which project management affects the implementation of clearing system upgrade projects in Kenya. From the study findings, most of the respondents agreed that project planning does affect effective implementation of clearing system upgrade projects to a very great extent. 69.74% of the respondents agreed to very great extent, 19.74% to great extent, and 10.52% to moderate extent.

Table 8: Effect of Project Planning on the Implementation of Projects

	Frequency	Percentage
Very great extent	53	69.74
Great extent	15	19.74
Moderate extent	8	10.52
Little extent	0	0
Total	76	100

The respondents also rated how various planning factors affect the implementation of clearing systems upgrade projects in Kenya. The findings show that incomplete requirements (due to poor scope controls) does affect the implementation of the clearing systems upgrade projects with 42% agreeing to a very great extent, 30% of the respondents agreed to a great extent while 28% of the respondents agreed to a moderate extent. Lack of preparation due to lack plans and baselines also affect clearing systems upgrade with 42% agreeing to a very great extent, 38% of the respondents agreed to a great extent, 14% agreed to a moderate extent while 5% of the respondents agreed to a little extent. Time management (leading to delays and missed deadlines) was seen to affect effective implementation of the clearing systems upgrade projects with 29% agreeing to a very a great extent, 42% of the respondents agreed to a great extent, 17% of the respondents agreed to a moderate extent while 12% of the respondents agreed to a little extent. Unrealistic expectations were also seen to affect effective implementation of clearing systems upgrade projects with 24% agreeing to a very a great extent, 32% of the respondents agreed to a great extent, 12% agreed to a moderate extent while 32% of the respondents agreed to a little extent.

From the findings, we can deduce that majority of the respondents were supporting the fact that planning does affect the implementation of clearing systems upgrade project greatly. This is in agreement with Din (2016), who identified why up to 25 projects failed in Pakistan.

Table 9: Project Planning Factors

Project Planning		Not at all	Little extent	Moderate Extent	Great extent	Very Great extent
		1	2	3	4	5
Incomplete requirements (due to poor scope controls)	frequency	0	0	21	23	32
	percentage	0	0	28%	30%	42%
Lack of preparation due to lack plans and baselines	frequency	0	4	11	29	32
	percentage	0	5%	14%	38%	42%
Time management (leading to delays and missed deadlines)	frequency	0	9	13	32	22
	percentage	0	12%	17%	42%	29%
Unrealistic expectations	frequency	0	25	9	24	18
	percentage	0	32%	12%	32%	24%

Clearing System Upgrade Projects

The study also sought to know the extent to which other factors such as CBK deadlines, market competitors, and technological evolution affected the implementation of clearing system upgrade projects in Kenya. According to the findings, the respondents indicated that CBK/KBA deadlines do affect implementation of clearing systems upgrade projects, with 71% agreeing to a very great extent. All respondent agreed that market competitors affect effective clearing systems upgrade with 58% agreeing to a very great extent while 42% of the respondents agreed to a great extent. Successful system upgrade has also been seen to affect effective implementation of clearing systems upgrade proeject with 67% agreeing to a very great extent and 33% of the respondents agreed to a great extent. Technological evolution was also seen to affect the implementation of clearing systems upgrade projects with 78% agreeing to a very great extent, and 22% of the respondents agreed to a great extent. From the above finding, we can conclude that CBK/KBA deadlines, market competitors, successful

system upgrade and Technological evolution do affect implementation of clearing systems upgrade projects in Kenya greatly.

Table 10: Other Factors Affecting the implementation of Clearing Systems Upgrade Projects

Clearing System Upgrade		Not at all	Little extent	Moderate Extent	Great extent	Very Great extent
		1	2	3	4	5
CBK/KBA deadlines	Frequency	0	0	0	22	54
	percentage	0	0	0	29%	71%
Market Competitors	Frequency	0	0	0	32	44
	percentage	0	0	0	42%	58%
Successful system upgrade	Frequency	0	0	0	25	51
	percentage	0	0	0	33%	67%
Technological evolution	Frequency	0	0	0	17	59
	percentage	0	0	0	22%	78%

Inferential Statistics

Correlation Analysis

From the findings, the results shows that planning had strong positive correlation with clearing systems upgrade projects at $r= 0.834$. Communication systems and channels had a strong positive correlation with clearing systems upgrade projects at $r=0.712$; stakeholder participation had a strong positive correlation with clearing systems upgrade projects at $r= 0.703$ while resource management had a moderate positive correlation with clearing systems upgrade projects at $r= 0.592$.

Table 1: Correlation Analysis

		Clearing systems upgrade projects	Communication systems	Stakeholder participation	Resource management	Project Planning
Clearing systems upgrade projects	Pearson Correlation	1				
	Sig. (2-tailed)					
Communications systems	Pearson Correlation	.712**	1			
	Sig. (2-tailed)	.000				
Stakeholders participation	Pearson Correlation	.703**	.514**	1		
	Sig. (2-tailed)	.000	.000			
Resource management	Pearson Correlation	.592**	.495**	.495**	1	
	Sig. (2-tailed)	.000	.000	.000		
Project Planning	Pearson Correlation	.834**	.720**	.787**	.509**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

** . Correlation is significant at the 0.000 level (2-tailed).

Regression Analysis

The multiple regression model given below was applied to establish relationship between the independent variables and dependent variable:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

where; (Y) is the value of the Dependent variable (Clearing System Upgrade Projects) β_0 is a constant, $\beta_1 - \beta_4$ are the coefficients of the independent variables measuring the strength of the relationship between the independent variables and the dependent variable. X_1 - Communication System, X_2 - Stakeholder Participation, X_3 - Resource Management, X_4 - Planning, ε - Standard error.

The "R Square" column represents the R^2 value, that is, the coefficient of determination which is the proportion of variance in the dependent variable that can be explained by the independent variables (0.577). Thus the independent variables account for 57.7% of the variation in the dependent variable clearing system upgrade projects. This means that Communication System, Stakeholder Participation, Resource Management and Planning account for 57.7% of Clearing System Upgrade Projects. The difference of 42.3% (from 100%) is accounted by other factors in the organizations which are beyond the scope of this study.

Table 2: Model summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.760	.577	.559	5.6097

The F calculated is 7.375 which is greater than the F value at 4, 95 (7.375 > 4.95) and confirms goodness of fit. The results shows that the independent variables statistically significantly predict the dependent variable, $F = 24.210$, $p < 0.000$, that is, the regression model is a good fit of the data. In other words the data reflects the findings of this study.

Table 3: Analysis of Variance

Model	Sum of squares	df	Mean square	F	Sig.
Regression	4196.48	4	1049.121	24.210	0.000
Residual	3076.78	71	43.335		
Total	7273.26	75			

From the findings, the model can be translated as:

$$Y = 0.830 + 0.506X_1 + 0.465X_2 + 0.385X_3 + 0.218X_4 + 5.6097$$

The general form of the equation to predict clearing system upgrade projects from communication system, stakeholder participation, resource management, planning is: holding these factors constant (independent variables), clearing system upgrade projects is predicted at 0.830. The results indicate that, a unit increase in communication systems improves implementation of clearing system upgrade projects by 0.465, a unit increase in stakeholder participation improves implementation of clearing system upgrade projects by 0.385, a unit increase in resource management improves implementation of

clearing system upgrade projects by 0.218 and a unit increase in planning improves implementation of clearing system upgrade projects by 0.506.

Table 4: Beta Coefficients

	Unstandardized coefficients		Standardized coefficients	t	Sig.
	β	Std. Error	Beta		
Constant	0.830	0.085		9.765	0.000
Communication systems	0.465	0.123	0.176	3.780	0.000
Stakeholder participation	0.385	0.131	0.677	2.939	0.000
Resource Management	0.218	0.092	0.252	2.370	0.010
Project Planning	0.506	0.079	0.748	6.405	0.000

Conclusions

Coordinating and managing big and massive system such as a bank's clearing system is not an easy task. This is because a bank's core system renewal/upgrade/replacement project, other than being expensive, is risky and costly for any bank to undertake. Nevertheless, core banking renewals and upgrades are gradually becoming necessary, and banks cannot ignore.

With new competitors in a competing world and new platforms, banks need to meet market threats, and opportunities and core systems cannot be allowed to block innovations. With the upgrades of systems, banks can have streamlined operating environment which is more flexible thus eliminating redundancies and costs, can have an automated operating environment where back office performance is improved, and workflows are real time.

For banks to successfully upgrade its clearing system and any other core system it is key for the staff implementing the project to have the necessary skills and knowledge, thus training them on the new system is inevitable. They also need support regarding having a clear plan as per project scope. All the stakeholders of the project need to be engaged, from the buy-in of the project by the management to facilitate financing, agreement with the system vendors to know the scope of the project, end user participation is very key. All stakeholders should be at par at any given point of the project.

From the study, it is clear different factors influence effective implementation of clearing system upgrade projects including, CBK/KBA deadlines, stakeholder participation (lack of end user participation, lack of buy-in by the executive leading to late approvals, bureaucracy), resource management (overworking of staff, lack of knowledge, poor allocation of responsibilities), project planning (lack of preparation, time management, poor scope management) and communication systems (lack of up to date reports, poor feedback to stakeholders).

Recommendations

Basing on the findings of the study following recommendations were made; the bank should make sure that staffs who are participating in any projects and especially the implementation of a new system are thoroughly skilled to carry on the project. This implies that the management needs to be supportive by ensuring that all the needed resources are available.

The researcher also recommends that planning should be done before the start of the project. The scope, objectives, and strategies should be set earlier and not when the project is already running. This

will help in avoiding outside the scope, thus wasting time and resources. Also, communication is very key. The project manager should have a plan in place on how to update various stakeholders at different phases of the project. Different stakeholders need to be updated differently about the progress of the project.

Another recommendation is that CBK/KBA should ensure all banks are at par when it comes to an overall project implementation. Different banks face different challenges at different levels of implementing projects. Some suffer financial constraints, lack of knowledgeable human resources among others; they should establish those challenges and help the banks in their capacity.

Recommendations for further studies

The study managed to gather data from a few selected commercial banks in Nairobi, therefore there is need to carry out more research to cover other banks, branches and financial institutions. This study looked at only four challenges affecting implementation of clearing system upgrade projects which accounted for only 69.1% of the factors as per regression model.

References

- Barney, J. B. (2015). *VRIO Analysis*. Retrieved from <https://managementmania.com/en/vrio-analysis>
- Ben S, B. (2011). *ClearingHouses, Financial Markets Conference*. Georgia: Stone Mountain.
- Bennett, H. (2014). *5 Key Benefits of Optimizing Your Resource Management Process*. Retrieved from <http://www.keyedin.com/keyedinprojects/article/5-key-benefits-of-optimizing-your-resource-management-process>
- Bieg, D. P. (2014). *Requirement Management: A Core Competency for Project and Program Success*. New York: Project Management Institute, Inc.
- Bower, J. (2014). Resource Allocation Theory. *The Palgrave Encyclopedia of Strategic Management*, 1, 1-3.
- Cargan, L. (2007). *Doing Social Research*. Maryland: Rowman & Littlefield Publishers, Inc.
- Cegielski, C. & Jones-Farmer, A. L. (2012). Adoption of cloud computing technologies in supply chains: An organizational information processing theory approach. *International Journal of Logistics Management*, 8(4), 184-211.
- Chandana, L. (2013). Stakeholders and their Impact on the Projects. *Simplilearn*, 1, 1-5.
- Conway, J. (2011). Death March : Case Studies in Predictable Project Failure. *Systems Development – Project Management*, 1, 1-5.
- Damoah, C. A. (2015). Causes of government project failure in developing countries – Focus on Ghana. *British Academy of Management (BAM) Conference* (pp. 1-10). Portsmouth University: British Academy of Management.
- Din, A. U. (2016). Evaluation of Project Failure Causes in a Community Based Organization (CBO): A case study of Pakistan. *PM World Journal*, 1(5), 1-9.
- Donaldson, P. A. (1995). Stakeholder Analysis, Project Management, templates and advice. *Stakeholder Theory*, 12, 65.
- Dutta, P. (2015). *The Impact of Communication on Project Management*. Retrieved from <https://blog.commlabindia.com/elearning-design/impact-of-communication-on-project-management>

- Goudar, J. (2010). *Effective Project Communication Management*. Retrieved from Project Perfect <http://www.projectperfect.com.au/white-paper-effective-project-communication-management.php>
- Jung, C. (2011). *Payment, clearing and settlement systems in the United States*. Retrieved from https://www.bis.org/cpmi/publ/d97_in.pdf
- Jung, C. (2012). *Payment, clearing and settlement systems in the United States*. Retrieved from http://www.bis.org/cpmi/publ/d105_us.pdf
- KBA. (2013). Banks Announce new cheque processing timelines. *Kenya Bankers Association*, 1, 1-5.
- Missonier, S. L.-F. (2014). Stakeholder analysis and engagement in projects: From stakeholder relational perspective to stakeholder relational ontology. *International Journal of Project Management*, 2(13), 1108-1122.
- Mugenda, O.M & Mugenda, A. (2003). *Research Methods: Quantitative and Approches*. Nairobi: Act Press.
- Ndoumbe, G. N. (2012). *Payment and Settlement Systems Integration Project*. Nairobi: African Development Fund.
- Nduati, M. (2015). Cyber Laws and Regulations for Enhancing E-commerce. *Central Bank of Kenya*, 5-25. Retrieved December 2016, from Central Bank of Kenya.
- Rono, W. K. (2012). *Core Banking Systems Replacement And Performance In Commercial Banks In Kenya*. Retrieved from <http://erepository.uonbi.ac.ke>
- Ngui, M. H. (2015). *Factors Influencing Implementation of Core Banking system Projects by Commercial Banks in Kenya: Case Study NIC Bank Ltd*. Retrieved from erepository.uonbi.ac.ke/handle/11295/90439
- Olson, B. (2013). *Project Failure Source 10 - Insufficient Resources*. Retrieved from <http://theitprofessor.blogspot.co.ke/2013/07/project-failure-source-10-insufficient.html>
- Padmanabhan, G. (2011). *Payment system issues and challenges*. Retrieved from <http://www.bis.org/review/r111129c.pdf>
- Ren, M. A. (2014). *Root Causes of Construction Project Delays in Dubai*. Retrieved from http://www.arcom.ac.uk/-docs/proceedings/ar2008-749-757_Ren_Atout_and_Jones.pdf
- Rodgers, P. (2014). Theory of Change Methodological Briefs: Impact Evaluation 2. *UNICEF Office of Research*, 2, 4-16.
- Roeder, T. (2013). *Managing Project Stakeholders: Building a Foundation to Achieve Project Goals*. New Jersey: John Wiley & Sons, Inc.
- Symonds, M. (2015). Projects Fail Because of Poor Estimates in the Planning Phase. *Project Management Articles*, 1, 1-2.
- Weick, K. E. (1979). *The Social Psychology of Organizing*. Ohio State: University of Michigan.