

# Influence of Project Management Information Systems on the Implementation of Information Communication Technology Projects in the Banking Industry in Kenya

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**Abstract:** This study sought to explore the influence of project management information systems on the implementation of ICT projects in the banking industry in Kenya in order to improve pace of implementation and draw important lessons for future projects. Three theories relating to the implementation of ICT projects which include, the Contingency Theory, Theory of Reasoned action and The Technology acceptance model were explored. The study was grounded on the Technology acceptance model as this Theory provides more insight on the factors influencing implementation of ICT projects. Descriptive research design was used to gather primary data by use of questionnaires. A sample size of 60 employees was selected from a target population of 176 employees from the five selected banks in the banking industry. Multistage sampling procedure was used to select the banks and departments while simple random sampling was used to select individual respondents. Data was analyzed by use of SPSS v 22.0 and presented in form of tables. From the data analysis, it was established that PMIS influences the implementation of ICT projects. PMIS were found to be the most influential with a mean score of 4.4. Given that the study focused only on five banks within Nairobi region, the results may not be applicable to all Banks in Kenya. It is recommended that a study be done cutting across all the banks in the country that would allow for broader generalization of findings.

**Keywords:** Project Management Information System, Banking Industry, and Information Communication Technology.

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## 1. INTRODUCTION

The 21st century business environment is characterized by changing technological innovations especially in Information and Communication Technology. Globalization and the internationalization of markets have increased competitive pressures on business enterprises. This has led companies to engage in projects that are critical to their performance, if not their survival. In order to succeed, companies need to deliver projects on time and within budget, and meet project scope while managing project risk (Agboola, 2006). The banking industry has not been left out as it is one of the sectors that involve application of ICT in constant improvement of customer service. Adewoye (2007) states that the environments in which banks and other organizations operate are competitive, complex and consist of changing operational conditions. The revolution of Information and Communication Technology is therefore the drive of present day economy and corporate strategies of organizations. According to Raymond (2007), the project implementation process is complex, usually requires extensive and collective attention to a broad aspect of human, budgetary and technical variables.

Pinto (2006) identified the Ten-factor model based on the study of project critical success factors in light of project implementation in the USA. In this model, project implementation was found to be influenced by project mission, top management support, project schedule, client consultation, personnel-technical skills, client acceptance, monitoring and

feedback, communication and troubleshooting. According to research from the Royal Academy of Engineering and the British Computer Society (2005), only 16% of IT projects are considered truly successful. Studying the factors and processes that contribute to complexity on IT projects and their management is important in understanding why IT projects fail, and how the management of complexity increases the chances of success.

Failure of ICT projects has been linked to poor systems, inadequate clarity of roles, poor infrastructure, poor organizational structure, and failure to communicate these from project sponsors, poor design and implementation among others (Pinto, 2006). A survey in Czech Republic in 2005 revealed that 31% of Information Systems (IS) projects failed to deliver on time and another 31%, within budget due to use of poor Project Management Information Systems and inadequate motivation for project teams. Unfortunately, many projects do not bring the benefits for which they were implemented. Analyses of completed projects show that a significant number of projects exceeds the planned time and costs, consequently reducing the benefits. Some studies have shown that on average the success of ICT developmental projects is currently standing at about 33% (CHAOS Report, 2007). A study conducted in Canada in 2007 identified PMIS as one of the factors influencing ICT project implementation (Raymond, 2007). The financial industry plays a key role in the development of any country. Banking has always been an information intensive sector that relies heavily on Information Technology to acquire, process and deliver information to the relevant users. In Kenya the banking environment has, for the past decade, undergone many regulatory and financial reforms. These reforms have brought about many structural changes in the sector and have also encouraged foreign banks to enter and expand operations (Kamau, 2009). The banking industry is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The CBK, which falls under the Minister for Finance's docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the bankers' interests and also addresses issues affecting KBA members.

## **2. STATEMENT OF THE PROBLEM**

The banking sector plays a vital role in Kenya's economy by supporting businesses in terms of lending and performing customer transactions (Kamau, 2009). According to Raymond (2007), banking operations without the application of ICT facilities is slow and it limits the capability of the banks to attend to customer needs and effectively market products. Recent ICT developments in the banking industry have created new platforms for competition among the existing banks. This has generated more innovations in the area of ICT which remains a key factor in benchmarking competitors for Commercial banks in Kenya (Central Bank of Kenya, 2013). White (2006) observes that there is only a 65% chance that an ICT project will meet the project participants' expectations, and while 18% of IT projects are executed within budget, 50% of them exceeded the planned costs, while 30% of the projects are so expensive that they are cancelled before completion. The process of project ICT implementation, involving the successful development and introduction of projects in organizations, presents an ongoing challenge for managers (White, 2006). According to Schwalbe (2007), Information Technology Projects do not only have poor track record of meeting projects goals, but also poor record in meeting budget goals due to inadequate management support and poor infrastructure.

Kamau (2009) notes that Kenyan banks have in the recent times faced project implementation setbacks due to inadequate infrastructure. The World Bank's report (2011) estimates that the bank has had a 60% success rate in a budget of \$4.2 billion allocated for implementation of ICT development projects in Africa. In Kenya, the implementation of paperless banking in Barclays bank has faced delays since its inception early in 2015. A survey done in Kenya Commercial bank of Kenya in 2015 also shown significant delays in execution of ICT projects in the last 2 years. (Central Bank of Kenya, 2015). This persisting challenge has led many project management professionals to attempt to identify the critical factors that need to be tackle head-on to produce a successful project management outcome. While examining the adoption and the effectiveness of electronic banking in Kenya, Gikandi (2010) found out that 40% of ICT projects in Commercial banks in Kenya were not fully implemented. Project failure was attributed to inadequate Top Management support and users involvement. Due to these challenges, projects often face delays, over budget, lack of scope management and challenges in user adoption. This study therefore sought to explore the influence of project management information systems on the implementation of ICT projects in the banking industry in Kenya.

### **3. LITERATURE REVIEW**

According to Raymond (2007), PMIS are software packages which help in monitoring time, cost, and performance goals and objectives and also provide business intelligence on how the project contributes to the organization's strategy and success. Raymond (2007), adds that a reliable PMIS enhances improving the project success by 75%. Bhavesh (2006), found that utilizing PMIS has impact in solving all difficulties, which may appear during project lifecycle phases, by presenting crucial computer application and project management software which may help in decreasing the time and cost and help in project planning, scheduling, monitoring, and controlling. In the information technology (IT) industry, Gartner Research estimates that 75% of large IT projects managed with the support of a project management information system (PMIS) will succeed, while 75% of projects without such support will fail. Similar to other information systems, a successful PMIS needs to consider individual impacts in terms of satisfied users and effective use. In addition, a successful PMIS should also have impacts on project success in terms of respecting budget, schedule, and specifications. As defined by Cleland and King, the basic function of a PMIS was to provide managers with essential information on the cost-time performance parameters of a project and on the interrelationship of these parameters.

According to a study conducted by Raymond (2007), PMIS was found to be advantageous to project managers by creating efficiency in implementation of managerial tasks. In this study, a survey of 224 project managers and project management consultants was conducted, identified from a list of participants to a project management national conference held in Canada. The study was conducted by use of questionnaires by e-mail to the various respondents. The aim was to determine the actual impacts of IT-based Project management information systems upon project managers and project performance. PMIS were found to have direct impacts on project success, as they contributed to improving budget control and meeting project deadlines as well as fulfilling technical specifications.

Kahura (2013) conducted a study on the role of Project management information systems towards the success of a project. Purposive sampling was used and data measured on a likert scale. PMIS was found to be a factor influencing project implementation. The research found out that the use of the software to generate quality information needed by the user (project manager) to perform project tasks helped the project managers perform tasks in a more professional manner thus increasing the success rate of the project. In the findings of a study conducted by Karim (2011), PMIS was found to play a part to project success events in each phase of the project life cycle. The aim of the objective of the study was to establish the impact of PMIS and decision making in project management. Questionnaires were designed and distributed to 170 employees in three project teams. The respondents were also selected from different industry services, different age groups, and different educational level from different countries. It was established that, in order to facilitate effective management of decision, project managers should consider using the PMIS that correspond to the characteristics of phases and with qualified and highly professional decision makers in each phase of the project life cycle.

### **4. RESEARCH METHODOLOGY**

The research design of this study was descriptive research design. The target population constituted 176 employees from the five banks namely Barclays bank, Cooperative bank, CBA, KCB and Family bank. From the target population, a sample size of 60 employees was selected from various departments in each of the five banks where the study was conducted. Multi stage sampling Procedure was used in order to narrow down the study to specific employees involved in the implementation of ICT projects in each of the selected banks. The study collected primary data using questionnaires comprising of a list with predominantly close-ended questions. Descriptive statistics involving the use of measures of central tendency and measures of dispersion were used to analyze data. After analysis, data was presented in tables.

### **5. FINDINGS**

Project Management Information Systems are software packages which help in monitoring time, cost, and performance goals and objectives and also provide business intelligence on how the project contributes to the organization's strategy and success. These factors include the type of system, ease of use and system reliability. With a mean of 3.8, respondents agreed that PMIS influence the project schedule, while with a mean of 4.3 respondents strongly agreed that the type of PMIS influences a project's budget. Additionally, with a mean of 4.4 respondents strongly agreed that the type of PMIS influences a project's scope, whereas with a mean of 4.5, respondents strongly agreed that the ease of use of PMIS influences the project schedule. Moreover, with a mean of 4.4, respondents strongly agreed that the ease of use of the PMIS influences a project's budget, while with a mean of 4.5 the ease of use of PMIS was found to influence project

scope. Moreover, with a mean of 4.4, respondents strongly agreed that a system’s reliability influences a project schedule; with a mean of 4.6, respondents strongly agreed that a system’s reliability influences a project’s budget, and project scope with a mean of 4.7. Therefore, with a composite mean of 4.4 respondents strongly agreed that PMIS influences implementation of ICT projects. A standard deviation of 0.6 showed that there was less variation from the mean. This is in line with the findings of Bhavesh (2006), that utilizing PMIS has impact in solving all difficulties, which may appear during project lifecycle phases, by presenting a crucial computer application and project management software which may help in decreasing cost.

**Table 1. Influence of PMIS on the implementation of ICT Projects**

Indicator	n	$\bar{x}$	$\sigma$
4.7a Type of PMIS influence project implementation schedule	60	3.8	0.7
4.7b Type of PMIS influences project budget	60	4.3	0.5
4.7c Type of PMIs influences project scope	60	4.4	0.6
4.7d Ease of use of PMIS influences Project schedules	60	4.5	0.6
4.7e Ease of use of PMIS influences project budget	60	4.4	0.6
4.7f Ease of use of PMIS influences project scope	60	4.5	0.6
4.7g System reliability influences project schedules	60	4.4	0.5
4.7h System reliability influences project Budget	60	4.6	0.6
4.7i System reliability influences project scope	60	4.7	0.7
<b>Composite Mean / Standard Deviation</b>		<b>4.4</b>	<b>0.6</b>

## 6. CONCLUSION AND RECOMMENDATION

The study found out that, level of PMIS reliability influences project scope and schedule. It is therefore recommended that project managers select and use reliable PMIS to ensure that they are able to track the flow of tasks and schedule them within the right duration. Additionally, the study recommends that Project managers use reliable PMIS that provides accurate and useful data for tracking project performance against time and ensure that ICT projects are performed within schedule. Furthermore, a reliable PMIS will help project managers to compare the baseline with the actual accomplishment of each activity, collect financial data, and reviewing goals to check if the tasks were accomplished as per project plan.

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