

FACTORS AFFECTING THE IMPLEMENTATION OF MANAGEMENT INFORMATION SYSTEM IN SELECTED FINANCIAL COOPERATIVES IN NAIROBI

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ABSTRACT

Management Information System (MIS), Information System (IS) and Information Technology Management (ITM) overtime have been used in different forms just like Information Technology Management (ITM) that concerns the operation and organization of information technology, while Management Information System (MIS) provides information which is needed to manage organizations efficiently and effectively; and involves people, technology and information. The main purpose of this study was to examine the factors affecting implementation of MIS in selected financial cooperatives in Nairobi. The study sought to find out the effect of training, cost, infrastructure and regulations on the implementation of MIS. The study also intended to explore the strategies that could be adopted to enhance effective implementation of MIS in these organizations. The theories for this study were; Technology Acceptance Model (TAM) which deals with behavior element, that is, what makes someone to act without limitation as well as Unified Theory of Acceptance and use of Technology (UTAUT), which was introduced to fill the missing gaps in TAM. The study employed survey study as its research design with a target population of five (5) organizations

from a total population of 52. The sample consisted of one hundred and four (104) support staff and five (5) senior staff members from the selected organizations. The sampling design was simple random sampling procedure which was used to select the support staff, however, senior managers were selected using purposive sampling technique. Structured questionnaire was the main research instrument used to solicit data from the support staff, as well as an interview method that was used to collect data from senior managers of respective organizations. The collected data were analyzed quantitatively by descriptive and inferential statistics. The study revealed that the factors: training, cost, infrastructure and regulations affected the implementation of MIS in selected financial cooperatives in Nairobi. The study recommends favorable regulations for effective implementation of Management Information System in organizations such as provision of internet bundles and lowering of prices. However, further research could be on ineffectiveness of MIS implementations, extend of legal provisions during its implementation and challenges that affect the organization outputs.

Key Words: *Implementation Factors, Management Information System, Nairobi Financial cooperatives*

INTRODUCTION

The terms Management Information System (MIS), Information System (IS) and Information Technology Management (ITM) are often confused. ITM concerns the operation and organization of information technology resources independent of their purpose. A management

information system (MIS) provides information which is needed to manage organizations efficiently and effectively. It involves three primary resources: people, technology, and information (Kenneth, 2009). Academically, the term is commonly used to refer to the group of information management methods tied to the automation or support of human decision making (O'Brien, 1999).

Global information systems development can be closely attributed to the process of globalization in which the IT industry is becoming more and more globally interconnected. A number of scholars have argued that the existing local, socio-cultural context is a critical factor in mediating the globalization process in a specific context and, in turn, has an impact on the complexity of globalization. (Avgereu, 2002)

In Kenya, Financial Management Systems (FMS) are used to provide receivable management solutions to financial service institutions both in the government and private sector. Moreover, the ministry of finance has come up with a Public Financial Management Reforms Programme (PFMR). This program aims to strengthen public financial management systems in a bid to enhance transparency, accountability and responsiveness to public expenditure policy priorities.

Management Information System role is therefore to connect, accumulate, process, and then provide information to all parties in the budget system on a continuous basis. All participants in the system, therefore, need to be able to access the system, and to derive the specific information they require to carry out their different functions.

STATEMENT OF THE PROBLEM

Implementation of MIS at financial organizations is one of the effective tools needed to effectively eliminate the logging of jobs and enhance the smooth running of the Sacco's operations. According to Bwisa (2009) organizations and especially the small ones should embrace the application of MIS for effective return to members of the organization. Particular attention should be paid to the use of mobile phones in mobilizing the workers, clients, as well as other stakeholders in terms of money transfer and payments of bills and services. Despite the critical role that MIS play in the organizations, its implementation has been hindered by a number of challenges. In the last decade, Kenya has seen a lot of development in the application of ICT. However, the number of organizations, especially the growing ones are using old management systems in management Bwisa (2009).

The study by Barki & Ewusi in regard to MIS implementation, postulated that lack of expertise, including lack of development expertise, lack of application on specific knowledge and lack of user experience on IS, contributes to MIS project risk (Barki et al.1993; Ewusi-Mensah, 1997) This indicates that for managers to work efficiently in implementing the Management

information system in their organizations, then they must have a hand and experience in IT systems.

Organizations, as they implement MIS are also guided by certain regulations that are meant to protect the privacy and security of private financial information that financial institutions collect, hold, and process (Dhillon, 2007). Chief information officers are responsible for the security, accuracy and the reliability of the systems that manage and report the financial data (Isaca, 2006). Small organizations may lack the capacity of validating the reports released through their systems. There is therefore a need to examine the extent to which such organizations adhere to the legal provisions during the implementation of MIS. This is attributed to various factors that are subject to investigation. Review of literature further reveals that there are a number of studies that have been conducted on MIS (Kenneth, 2009; Laudon, 1999; Hsu, 1995; Beaumaste, 1999 and Rodrigues, 2003).

However, there is no attention that has particularly been made on the factors facing the implementation of MIS in Financial cooperatives. Therefore, there is a need to examine the factors affecting the implementation of MIS in the Financial Cooperatives in Kenya.

OBJECTIVES OF THE STUDY

The general objective of this study was to examine factors affecting the implementation of MIS in small scale financial cooperatives in Kenya.

SPECIFIC OBJECTIVES

1. To find out the effect of training in Information Communication Technology on the implementation of Management Information System in Financial Cooperatives in Nairobi.
2. To establish the effect of cost on the implementation of Management Information System in Financial Cooperatives in Nairobi.
3. To find out the effects of technology infrastructure on the implementation of Management Information System in Financial Cooperatives in Nairobi.
4. To find out how regulatory environment affects the implementation of Management Information System in Financial Cooperatives in Nairobi.

THEORETICAL FRAMEWORK

There are various theories and models that are associated with the acceptance and take-up of ICT innovations. These models/ theories on ICT acceptance and implementation have been developed in association with commercial products and business organizations. This section reviews some

of the theories that are associated with the adoption and implementation of ICT adoption in organizations. Some of these theories reviewed include Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT).

Technological Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis to explain technology-usage behavior. The theoretical basis of the model was Fishbein and Ajzen's Theory of Reasoned Action (TRA). Both of these theories have strong behavioral elements; assume that when someone forms an intention to act, they will do so without limitation. However, in real life situation, there will be many constraints that limit freedom to act (Bagozzi & Warshaw 1992).

Unified Theory of Acceptance and Use of Technology (UTAUT)

This model was formulated by Venkatesh and others. The model aims to explain user intentions to use an information system and subsequent usage behavior. The theory holds that four key constructs, namely performance expectancy, effort expectancy, social influence, and facilitating conditions are direct determinants of usage intention and behaviour. Gender, age, experience, and voluntariness of use are posited to mediate the impact of the four key constructs on usage intention and behavior.

RESEARCH METHODOLOGY

Research design

Research design used was a survey design was used since the study collected data from different organizations within Nairobi. This design which was descriptive in nature assisted the researcher in collecting data from respondents based in different organizations as well as in estimating population parameters. The design was also appropriate in collecting data from a big sample. The sample consisted of internal staff of the sampled financial cooperatives in Nairobi and the senior managers. The target population for this study consisted of all the financial cooperatives in Nairobi area (n=52), the support staff members (n=1040) and senior staff members (n=52). In total, the target population was one thousand and ninety two (N=1092). This population was expected to provide information that assisted in answering the research problems.

Sample Size and Sampling Technique

This study used simple random sampling procedure to obtain the sample of respondents from the selected organizations. In total, the sample of this study included 5 financial cooperatives, five senior managers in these organizations and one hundred and four (104) support staff members in the organization. There are fifty two (52) financial cooperatives enlisted as members in Nairobi Association of financial Cooperatives. The study used simple random sampling technique from

the list to select 10% of the organizations. This translates to five (5) organizations. According to Gray (1996), at least 10% of the total population is held to be representative. Purposive sampling technique allowed a researcher to use cases that have the required information in respect to the objectives of the study (Mugenda and Mugenda, 1999).

Pilot Test

The piloting was done to test whether: the aim of the study was achieved, if there was any ambiguity in any item, if the instrument elicited the type of data anticipated, and also to indicate whether the research objectives were appropriately addressed thus enhancing reliability and validity. The instruments were piloted with two (2) micro-financial institutions in Nairobi which was not part of the sample. Both management and support staff were targeted in the pilot test.

Data and Analysis and Presentation

In this case, the following model will be used to measure the relationship between the dependent variable and independent variables.

Research Model

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where:

Y = Effective implementation of MIS

a= Constant

X₁= Management information systems training

X₂= Management information systems costs

X₃= Management information systems Regulation

X₄= Management information systems infrastructure

e= Random error term

Personnel Training(X₁): Since much of the information systems involve the application of ICT knowledge, personnel who have no or poor training in that line would not be very effective in implementing the same. Hence training and re-skilling managers and other administrators in ICT facilities are paramount for an effective MIS application. MIS training was measured by computing the mean of all the responses comprising (MIS training on upgrading skills, on job training and refresher courses) where No=0 and Yes=1.

Cost factor (X₂): Other people or organizations especially smaller ones would not afford the cost of acquiring, installing and maintaining ICT equipments. Others would prefer low cost equipments which might be less efficient in information transmission and acquisition. If the cost of acquiring and maintaining the facilities would go down, then it would boost MIS implementation in organizations especially smaller ones. Cost variable was measured by

computing the mean of the responses (1-Not Applicable; 2- Very Low; 3- Low; 4- High; 5 – Very High in linker scale) for all the aspect listed in the questionnaire.

Regulatory environment(X_3): The organization's management or government policy in regard to the use of certain MIS systems in certain areas can also hinder the effective implementation of MIS. For instance, the Kenya communication commission requires records of all communication of individuals in their systems. Thus, this study conceptualizes that certain legal provisions may hinder effective implementation of MIS in small financial institutions. Regulatory environment was measured by computing the mean of the responses (1-Not Applicable; 2- Very Low; 3- Low; 4- High; 5 – Very High in linker scale) on competence for all the components listed in the questionnaire.

Infrastructure(X_4): These pertains physical and system infrastructure. Without such, it would be difficult for organizations to effectively implement MIS. Infrastructure was measured by computing the mean of the number of ICT tools/ resources needed and available.

RESEARCH RESULTS

The purpose of this study was to examine the factors affecting the implementation of MIS in small scale financial cooperatives in Kenya. The study revealed that, majority of the respondents had on-job training which was significant in implementation of MIS in an organization. In this case, the respondents with on-job training had achieved implementation status of more than 40%. Indeed, this result implies that ICT training (on-job training) in an organization has effect on implementation of management information systems at 5% significance Level. The chi-square results indicated that there was no error made. Therefore, the researcher rejected the null hypothesis and concluded that on-job training has effects on MIS implementation at 5% significance level according to the information given.

The findings found that there exists an association between cost factor and implementation of MIS in an organization. For instance, it was found that, 4 out of 120 respondents cited high cost, affects effective implementation of MIS thus achieving below 41%. Indeed, 5 out of 120 respondents said that cost factor was not applicable, thus implementation status was 61% and above. This implies that, high cost of ICT systems affects implementation of MIS in a significant way. The research further tested the significance of the association between cost factor and MIS implementation. The chi-square test results indicated that an error of 0.1% was made against 5% allowable error. Thus the results are highly statistically significant at 5% significance level. In this case, the researcher rejected the null hypothesis and concluded that cost factor has effects on implementation of Management Information System in an at 5% significance level according to the given information.

The research found that in an organization where regulations are not applicable, implementation status of MIS is almost 100%. However, moderate regulatory environment is essential for the implementation of MIS in an organization. The chi-square test results indicated that no error was made, thus the results were highly statistically significant at 5% significance level. In this case, the researcher rejected the null hypothesis and concluded that regulations have effects on implementation of Management Information System in an organization at 5% significance level according to the given information.

The study found that majority of the respondents said that, technology and infrastructure were inadequate and only 26 out of 120 respondents mentioned adequate resources. About 15.4% of respondents said that implementation of MIS was between 81-100%. More importantly, with adequate ICT resources, implementation of MIS was not less than 21% and vice versa. The study found that, there exist a slight significant between infrastructure and Implementation of MIS. About, more than half of the respondents who mentioned inadequate infrastructure stated that implementation level of MIS was between 41-60%. However, result indicated that, even with inadequate infrastructure, it was possible to achieve 100% implementation level. This was due to availability of qualified staff and effective management of available resources. The chi-square results indicated that an error 5% was made against 5% allowable error. In this case, the researcher rejected the null hypothesis and concluded that ICT infrastructure has slight effects on effective implementation of MIS. Thus, the association was marginally significant at 5% significance level according to the given information.

The findings revealed that majority of the respondents indicated that MIS implementation level was between 41-60% whereas 25.8% of the respondents quoted implementation level of more than 60%. This implies that, there is need to enhance MIS through training of personnel's, provision of ICT resources and reducing operation cost of MIS. It was found that, in the cases where implementation level was low, the performance of MIS was poor. Also it was observed that in the cases where implementation level was between 41-60%, performance of MIS was quite good. The study found that performances and how effectively an organization applies management information systems implementation in an organization were significant at 5% significance level. The chi-square results indicated that an error 0.2% was made against 5% allowable error in this case.

Finally, the study found that only cost factor and regulatory environment were statistically significant in the multiple regression models at 5% significance level according to the data given.

CONCLUSIONS

The study revealed that training in general has improved implementation of MIS since most of the respondents were able to interact with the system. The respondents gave other varying reasons that includes; MIS brought exposure and competence to both ICT and non ICT staff, Fast

and efficient in updating MPAs and members ledger, better understanding and higher utilization of MIS and ease of serving members/clients. However, some respondents said that training has not improved MIS since objectives were not achieved due to lack of vigilance.

Information Systems implementation is often a high cost and high risk proposition involving social and technical uncertainty. The success of the implementation of various types of MIS differs from one organization to another (Benaroch and Appari, 2010). In this case, the study found that effective implementation of MIS could be achieved if the cost factor is at affordable margin. In the case where the cost factor was not applicable effective implementation of management information systems was not achieved. Therefore, low cost of ICT systems and installation can enhance effective implementation of MIS in an organization.

Organizations have a legal and moral duty to comply with the existing laws and regulations. Organizations need to understand what laws and regulations actually apply in their area of services, followed by the need to understand how they apply and what needs to be done to comply and ensure compliance on an ongoing basis. The study revealed that tough regulations hinder effective implementation of management of information systems in an organization. However, some respondents prefer lack of regulations in order to achieve effective implementation of MIS in an organization. In the few of the researcher, favourable regulations deemed essential for effective implementation of MIS in an organization.

Infrastructure has improved implementation of management information system in the sense that efficiency and neatness has been improved and reduced paper work, access of resources e.g. balances and funds, fewer people are involved hence accuracy as well as interaction with other staff has improved, reliable internet and mobile banking services and information and technology has been closer to end users through availability and reliable system. Nevertheless, some of the respondents are of the opinion that implementation of management information system has affected earlier accustomed organization of the system and performance is poor. In general, inadequate ICT infrastructures hinder effective implementation of MIS in an organization.

Finally, in the model it was found that cost factor and regulations were statistically significant at 5% significance level, thus very crucial in the prediction effective MIS implementation in an organization. The model was not sufficient enough to be relied upon.

RECOMMENDATIONS

Since some respondents, said that training has not improved implementation of MIS, because objectives were not achieved due to lack of vigilance. The study recommended vigilance in the management information systems in order to minimize fraud and malpractices associated with MIS. From the findings, it is evident that cost factor impacted on the implementation of MIS in organizations. In this case, the study found that effective implementation of MIS could be

achieved if the cost factor is at affordable margin. In the case where the cost factor was not applicable effective implementation of MIS was not achieved. Therefore, low cost of ICT systems and installation can enhance effective implementation of MIS in an organization. The study found that there exists inadequate ICT infrastructure that hinders effective implementation of MIS, thus the study recommends provision of ICT systems by the management in order to improve the performance of MIS in an organization. Since some respondents were of the opinion that lack of regulations hinders effective implementation of MIS. The study recommends favorable regulations for effective implementation of MIS in an organization such as provision of internet bundles at lower price.

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