Determinants Affecting the Implementation of the Integrated Financial Management Information System by the County Governments in Kenya: A case study of Nairobi City County

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Abstract: *The Kenya Government has implemented the Integrated Financial Management Information System (IFMIS) since the year 2005 as its sole accounting system. The main purpose of this study was to assess the challenges facing the effective implementation of the IFMIS in the county governments of Kenya. The study specifically focused in establishing the extent to which technological infrastructure and human capital development affects effective implementation of the IFMIS in the county governments of Kenya with a special focus in Nairobi County. This study used descriptive research design. The study was conducted in Nairobi County where it targeted 48 Nairobi county government employees who use IFMIS. The findings established that technological infrastructure affected the IFMIS implementation process moderately whereas human capital development affected the IFMIS implementation process greatly. The findings further established that general rating of level of technological infrastructure capacity and human capital development carried out in the county and was generally low. The study therefore recommended that Government and private institutions should ensure availability of the required up to date technological infrastructure to ensure smooth implementation of technological based innovations. Organizations should invest heavily in capacity building so as to ensure their employees are well equipped with the required skills in order to perform effectively.*

Keywords: *Integrated Financial Management Information System, technological infrastructure, human capital development*

I.   Introduction

According to Ramesh (2013), a Financial Management Information System (FMIS) can be broadly defined as a set of automation solutions that enable governments to plan, execute and monitor the budget. Whenever the same central database is shared by FMIS with other PMFs (Public Financial Management) information systems in recording and reporting daily financial operations, giving reliable consolidated outcomes for support in decision making, monitoring of performance and web publishing then they can collectively be referred to as an 'integrated'   Financial Management Information System (FMIS or IFMIS). Governments get a lot of help from the modern FMIS platform in complying with domestic and international regulations on financial and reporting standards. It also assists the governments in decentralizing its operations via centralized web based solutions which provide access a large population of authorized budget users at all levels

According to Alshehri, (2010) governments around the world have been engaged in the process of implementing a wide range of ICT applications. According to Heeks and Davies (2000), this reinvention has taken place especially in the advanced countries. Western countries are convinced that the information society will result in economic and social benefits (Audenhove, 2000). Integrated Financial Management Information Systems is a tool that provides governments with financial support control, planning and managing core financial data sets and interpreting the findings for management utilization are supported. Integrated Financial Management Information System can be defined further as a system in which key functions in finance such as budgeting and accounting are integrated. It is a system that focused towards improving on data management efficiency and security and assisting in giving comprehensive reports on financial information. Integrated Financial Management Information System are measured based on core and non-core financial functions while public financial management is characterized by a broad field with multiples of systems. A conventional specification of the Integrated Financial Management Information System core function is accounting and reporting functions, while non-core functions include assisting in budget activities, control of commitment level, management of cash and disbursement functions. The specifications of the core functions don't capture all the needed components for effective financial control leading to an escalated risk.

1.1 IFMIS Implementation in Kenya

The Government of Kenya implemented the Integrated Financial Management Information System since 2005 as its sole accounting system. IFMIS was adopted due to its several benefits likely to be experienced from its effective use. The Public Financial Reform Management (PFMR) Strategy Paper 2001-2006 recommended automation as well as integration of key government functions such as human resources payroll, accounting, procurement and budgeting citing transparency, better financial management and reporting as some of the benefits (Government of Kenya, 2001). The Strategic Plan for Government of Kenya (2011- 2015) outlined the development of the IFMIS System. The IFMIS system has been undergoing re-engineering with the purpose of upgrading it for managing and reporting financial information for the Kenyan Government. The Integrated Financial Management Information System implementation requirement in Kenya came from the Ministry of Finance and Economic Planning ICT Master Plan 2001- 2005. This plan indicated gaps and weaknesses within the SIBET system that was used by then. The master plan proposed development of different modules comprising of management of revenue, accounting, management of assets among others and interface establishments with the Kenya Revenue Authority, the National Bank Payment information System and the Ministry of Labor for payroll and management of human resource modules. The IDRC team, in collaboration with the Kenyan Government and researchers and various organizations, focused towards identifying structures (social structures, technological structures and institutional structures) needed for successful Information Communication Technology policy implementation to assist in developing efficient implementation strategies and detailed plans raising Integrated Financial Management Information System awareness by organizing of trainings and workshops for senior Government officials in developing indicators for assessing the progress and aftermath of the policy implementation while at the same time documenting learnt lessons for future reference.

1.2 Statement of the Problem

There is broad conformity that a fully operational Integrated Financial Management Information System can upgrade governance by providing real-time financial information which financial managers and system users can use to administer programs effectively, manage available resources and budget formulation (Rodin-Brown, 2008). Despite the obligatory requirement for all the county governments to fully adopt Integrated Financial Management Information System, the Controller of Budget's quarterly reports on the counties' budget implementation review have consistently indicated the failure of the county governments to fully implement Integrated Financial Management Information System in their operations. The report indicated that most operations within the counties have largely remained manual contrary to the law. The failure to adopt Integrated Financial Management Information System will prevent transparency in management of finances and financial reporting as required by law.

Kimwele (2011), in a study on Factors affecting effective implementation of Integrated Financial Management Information System in the Government ministries of Kenya, analyzed how staff resistance, top management commitment, system complexity and staff capacity affected the implementation process. However, in his study he did not establish the extent to which change management and technological infrastructure affected the implementation process. Sigei (2013) in a study on the Critical Success Factors in the Implementation of the reengineered Integrated Financial Management Information System in the Government Ministries focused on: User involvement in the implementation process, clear goal setting, top level management support, appropriate infrastructure and support.

While the reviewed researchers have studied factors affecting implementation of IFMIS in Kenyan context, this study seeks to examine the challenges facing its implementation in the county governments of Kenya and impact on governance and performance. It is against this background that this study sought to assess the extent to which various challenges facing the implementation of Integrated Financial Information Management Systems in the county governments of Kenya.

1.3. Research Objectives

i. To examine the extent to which technological infrastructure affects effective implementation of the IFMIS in the county governments of Kenya.
ii. To evaluate the extent to which human capital development affects effective implementation of the IFMIS in the county governments of Kenya.

1.4 Research questions

i. How does technological infrastructure affect effective implementation of the IFMIS in the county governments of Kenya?
ii. In what ways does human capital development affects effective implementation of the IFMIS in the county governments of Kenya?

II. Literature Review

2.1 Theoretical Framework

2.1.1Rodger's Theory of Diffusion of Innovation

Rodgers developed Diffusion of Innovation theory in 1962. This theory is arguable to be the one of the oldest theories in social science. This theory strives to explain in communication how a product or an idea gains momentum over time and diffuses through a social system or a specific population. The final outcome of this diffusion is that, a new idea, product or behavior is adopted by a specific population or social system. Adoption in this context means that an individual does things differently than the way she/he used to do previously (this may include acquiring a new behavior, purchasing or using of a new product and many more). The main point in adoption is that the idea, product or behavior must be perceived by an individual as original. It is through this that diffusion is possible (Sahin, 2006).

Implementation of a new concept or product doesn't happen concurrently in a social system but rather through a process where some individuals adopt to the new system or innovation faster than the rest. When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation (Rodgers, 2003). According to Medlin (2001), Rodger's theory of innovation's diffusion is the most appropriate in understanding the adoption of a given technology. In relation to the current study, Diffusion of Innovation theory enables the assessment of the process of implementation of Integrated Financial Management Information System in the County Governments. As explained by Rodgers, to adopt a system or a product entails full use of it as the most appropriate option available while to reject an innovation is a decision not to embrace it.

There are four major components in the diffusion of innovation which should be well comprehended, according to Rodgers theory. These are the innovation, communication channels, time and social system (Sahin, 2006). As Rodgers (2003) defined, an innovation is an idea, practice, or project that is perceived to be new by an individual or other unit of adoption. Relating to the theory, IFMIS has been regarded as an invention or innovation reason being it is in line with the components of the theory. Communication is regarded or defined in this context as the act or process whereby the individuals involved come up with information and share it with their colleagues or counterparts with a view of attaining a common comprehension or understanding. For communication to be effective, it is mandatory for it to occur via well structured and designed channels among the sources.

To facilitate the IFMIS diffusion into the County Governments systems, it is imperative that the IFMIS system is subjected to very effective and efficient channels of communication. A time dimension should also be included when diffusion process of an innovation is being undertaken. It has also been established that the social system has an influence on the innovativeness of an individual hence can be used in categorization of implementers or adopters

Recommendations are therefore made that, to facilitate or speed up diffusion of an innovation or new technology, it is very critical to deeply comprehend the process of innovation decision. The innovation decision process is characterized by fie phases namely; first one being knowledge, followed by persuasion, then decision, followed by implementation and finally confirmation phase (Rodgers, 2003)

2.1.2 Technology Acceptance Model (TAM)

This study is guided by the Technology Acceptance Model (TAM). This model is an information systems theory that models how users come to accept and use a technology. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of use of the system. Perceived usefulness and perceived ease of use have positive associations with technology acceptance (Bagozzi & Warshaw, 1989). They defined perceived usefulness as the degree to which a person believes that using the system will enhance his or her performance and ease of use as the degree to which a person believes that using the system will be free of mental effort. TAM has evolved overtime to TAM2 and extended the original model to explain perceived usefulness and usage intentions including social influence, cognitive instrumental processes and experience (Venkates, 2000). It demonstrates how the information system is determined by the behavioral pattern intention and the behavioral pattern determined by the person's attitude towards using the system. According to Bagozzi & Warshaw (1989), the attitude of an individual is not only the factor that determines his use of a system but is also based on the impact on the performance. The study of this model will help us understand the factors that determine the acceptance and use of IFMIS by the employees in the County Governments of Kenya.

III. Research Methodology

3.1 Research Design

This study used a descriptive research design. The choice of the descriptive research design was based on the fact that in this study, the researcher was interested on the state of affairs already existing in the field and no variable

would be manipulated.

3.2 Target Population

The target population of this study comprised of 48 Nairobi county government employees who use IFMIS. The target respondents comprised of county executive accountants, county executive procurement officers, county executive accounting officers, county assembly accountants, county assembly procurement officers and county assembly clerks. Census/complete enumeration technique was used in this study which entailed gathering information from all the members in the target population.

3.3 Data Collection Instruments and Procedures

Self administred questionnaires were used to collect data. The researcher will obtain an introductory letter from the University. After the introductory letter, the researcher obtained a research permit from the National Commission of Science, Technology Innovation (NACOSTI) and proceeded to the field to book appointments with the relevant officers. The researcher then visited the departments of the respondents to be involved in the study so as to familiarize with the environment and meet the respondents for the purpose of explaining the reasons for visits. The researcher then administered the questionnaires to individual respondents in person and guided them on how to fill them.

3.4 Data Analysis and Presentation

Collected data was analyzed according to the research objectives. Statistical software (SPSS) was used to analyze quantitative data which was presented in tabular and graphical form. The collected data was processed before being analyzed. The study also conducted regression analysis

IV. Results and Discussion
4.1 Extent to which Technological Infrastructure has affected Effective IFMIS Implementation Process
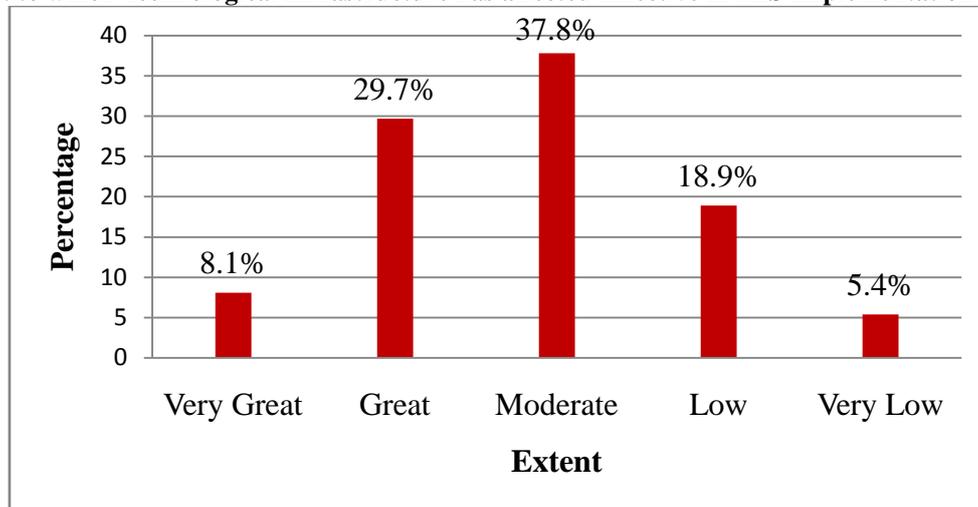
The study sought to establish the extent to which technological infrastructure has affected effective IFMIS implementation process. Majority of the respondents (37.8%) indicated that the extent was moderate. Twenty nine point seven percent indicated that the extent was great while 8.1% indicated that the extent was very great. However, 18.9% indicated that the extent was low while 5.4 % indicated that the extent was very low. The study further sought to establish the general rating on the extent to which technological infrastructure has affected the effective implementation of the IFMIS using the mean score. The rating scale adopted was as follows; (1.0-1.4)-Very Great, (1.5-2.4)-Great, (2.5-3.4)-Moderate, (3.5-4.4)-Low, (4.5-5.0)-Very Low. The mean obtained from the respondents' response on technological infrastructure effect was 2.84 implying that the extent was moderate.

4.2 Extent to which Human Capital Development has affected Effective IFMIS Implementation Process
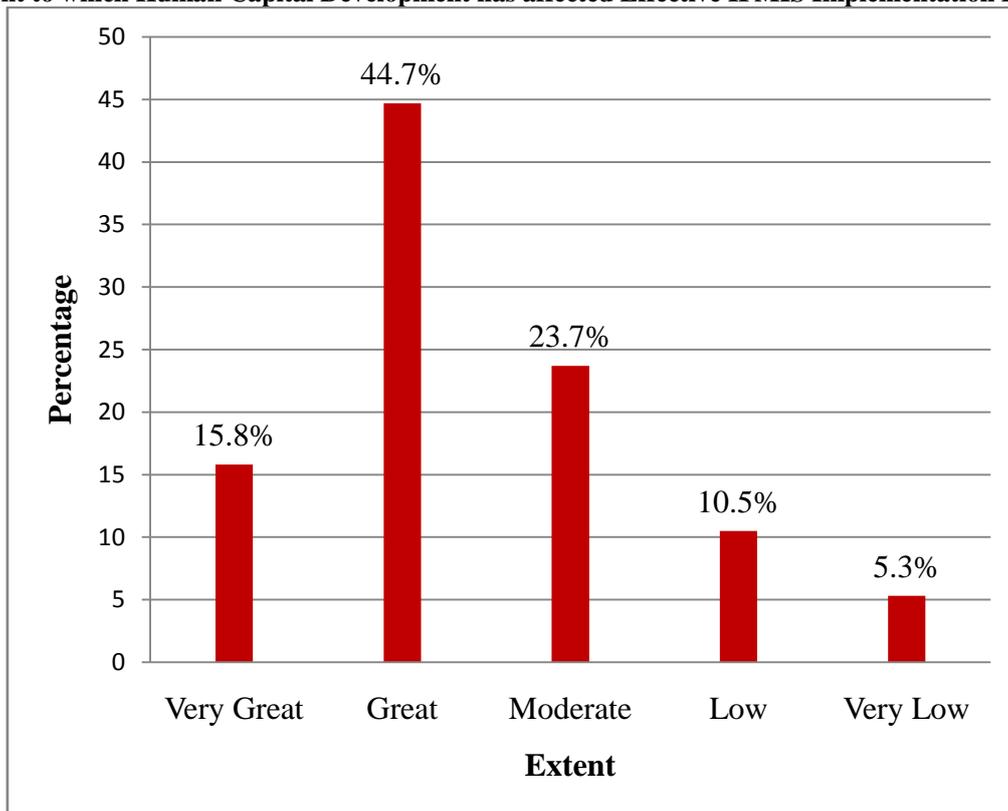
The study sought to establish the extent to which human capital development has affected effective IFMIS implementation process. Majority of the respondents (44.7%) indicated that the extent was great. Twenty three point seven percent indicated that the extent was moderate while 15.8% indicated that the extent was very great. However, 10.5% indicated that the extent was low while 5.3 % indicated that the extent was very low. The study further sought to establish the general rating on the extent to which human capital development has affected the effective implementation of the IFMIS using the mean score. The rating scale adopted was as follows; (1.0-1.4)-Very Great, (1.5-2.4)-Great, (2.5-3.4)-Moderate, (3.5-4.4)-Low, (4.5-5.0)-Very Low. The mean obtained from the respondents' response on human capital development effect was 2.45 implying that the extent was great.

V. Discussion

Majority of the respondents (37.8%) indicated that the technological infrastructure has affected effective IFMIS implementation process moderately with the general rating also being moderate. The findings established that the general rating of level of technological infrastructure capacity existing was generally low. This showed that the technological infrastructure within the county still lacked the capacity to ensure smooth running of IFMIS. The system was not that efficient due to challenges relating to technology. Hendricks, (2012), in his research pointed out that lack of capacity with IT knowledge and infrastructure as one of the leading impediments to successful adoption of the IFMIS system. He further noted that the use of obsolete infrastructure cannot be able to handle the IFMIS software that requires advanced and improved software and hardware.

Majority of the respondents (44.7%) indicated that human capital development has affected effective IFMIS implementation process greatly with the general rating also being great. The findings established that the general rating of level of human capital development carried out in the county was generally low. This showed that, in as much as the county was applying effort to build up the capacity of the IFMIS users, the effort was still not enough. Most employees still lacked the capacity to effectively and efficiently use the system as it is supposed to be. As Diamond and Khemani (2006) stated, for the implementation process of the IFMIS to be effective, be in operation and also well maintained the personnel running it must possess the required skills and knowledge. Diamond and Khemani (2006) posit that lack of capacity is regarded as one of the primary causes for the delay in IFMIS implementation process. This was also echoed by Hendrick (2012) who stated lack of capacity as one of the most poignant derailments to the effectiveness of an IFMIS.

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