

Integrated Financial Management Information System and Its Effect on Cash Management in Eldoret West District Treasury, Kenya

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Abstract

The purpose of this study was to investigate the effect of IFMIS on cash management practices in the public service. This has been necessitated by the fact that the use of IFMIS in the public service is undergoing challenges with many users experiencing problems with certain complicated features of IFMIS coupled with security, flexibility and reliability issues that have an impact on efficient cash management in the public service. The study was based on the Contingency theory and descriptive survey research design was employed. The study focused on 70 staff and top management at the Eldoret West District treasury. Questionnaires and interview schedules were used to collect primary data. Data was analyzed using descriptive statistics, regression and correlation. Study findings showed that reliability of IFMIS, Flexibility of IFMIS positively affect cash management. The findings also showed that a reliable system is basically one that is accurate, timely, complete and consistent in collection of information and the infrastructure which supports the IFMIS is supposed to be secure from destruction, corruption, unauthorized access and breach of confidentiality so that there is efficient cash management. Flexibility of local IFMIS design can decrease chances of failure in cash management. Findings also revealed that the implementation of IFMIS has not been a success as a result of the top down management exhibited in most of the public services. There is need for public service to ensure that the information generated by IFMIS is consistent without delays and undue changes that demand further manual help. Public service should tailor information concerning IFMIS in such a way that it cannot be tampered with by others. Also, there should be sufficient IFMIS controls to curb tampering. Public service should also ensure that IFMIS easily adapts to the changes in cash management without complete overhaul of the system.

Keywords: Financial management, Cash management practices, Reliability, Security

Background of the Study

A strong Public Financial Management (PFM) system is a catalyst for economic growth and development (Ajayi & Omirin, 2007). It ensures that the government and its departments raise, manage, and spend public resources in an efficient and transparent way with the aim of improving service delivery.

Sound systems, strong legal and regulatory frameworks as well as a competent and productive civil service are the cornerstones of an efficient PFM regime. Public Financial Management (PFM) reforms have been identified as the drivers to efficient public service delivery and creation of wealth and employment (Asselin & Srivastava, 2009).

According to Government of Kenya (GoK, 2011), over the last decade the Government of Kenya has undertaken a number of PFM reforms aimed at enhancing accountability and transparency. These reforms have targeted the core PFM systems of budget formulation and execution, public procurement, revenue collection, internal and external audit, parliamentary oversight, payroll and pensions, public debt and guarantees, accounting and reporting, the macro-fiscal framework and cash management.

The broad objective of these reforms is to strengthen PFM systems by enhancing transparency, accountability and responsiveness to public expenditure policy priorities. The PFM reform is also instrumental in the fight against wasteful spending and corruption. Various studies show positive results and an improved performance by the public financial systems, although challenges still remain in key areas of the economy. One major improvement in the public sector is cash management (Ajayi & Omirin, 2007).

Cash management has attracted increasing attention among both academics and practitioners during last decades. In developed countries, the increasing interest in this field is related to the liberalization of the money market, technological progress, and internationalization of businesses and proper financial management particularly in the public service (Miranda & Keefe, 2008). These changes have forced management to critically review cash management strategy and, consequently, also cash management policies and responsibilities. These factors have created additional demand for various kinds of cash management services (Peterson et al, 2008).

One of the major reforms embarked on, is the automation of Public Financial Management processes. The introduction of the Integrated Financial Management Information System (IFMS) has been premised on the realization that GoK can effectively leverage existing and emerging technology to enhance the pace of reforms and management of cash (GOK, 2011).

Peterson et al. (2008) noted that in modern cash management, the emphasis is usually on the part of the cash management which is responsible for many operations. A person responsible for the cash management function is primarily concerned with short-term financial activities. In a changing money management environment, it is more important to know how to improve the company's cash position, including managing accounts receivable, improving cash flow, transferring funds, and controlling cash disbursements. It is therefore necessary to assess the effect of Integrated Financial Management Systems on cash management.

A financial management information system, or integrated financial management information system (IFMIS), is an information system that tracks financial events and summarizes financial information (Bartel, 2009). In its basic form, an IFMIS is little more than an accounting system configured to operate according to the needs and specifications of the environment in which it is installed.

Casals (2009) notes that generally, the term "IFMIS" refers to the use of information and communications technology in financial operations to support management and budget decisions, fiduciary responsibilities, and the preparation of financial reports and statements. In the government realm, IFMIS refers more specifically to the computerization of public financial management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for financial management of line ministries, spending agencies and other public sector operations (GOK, 2011).

IFMIS can enable prompt and efficient access to reliable financial data and help strengthen government's financial controls, improving the provision of government services, raising the budget process to higher levels of transparency and accountability, and expediting government operations (GOK, 2011; Peterson et al, 2008).

The development of the Integrated Financial Management and Information System started in 1998 while deployment of the system to line ministries commenced in 2003 (GOK, 2013). The Government of Kenya's IFMIS is an Oracle based Enterprise Resource Planning (ERP) Software. Enterprise Resources Planning (ERP) applications or ERPs, as they are commonly known, are large-scale computer software and hardware systems that attempt to integrate all data and processes of an organization into a unified system, housed in a centralized database which is accessed through a secure network (Diamond & Khemani, 2008).

ERP functionalities are managed through a system of modules, which allows for flexibility in implementing various functions. Most organizations will not require all the functionalities that the software can offer (Diamond & Khemani, 2008). The IFMIS implementation requirement in Kenya originated from The Ministry of Finance and Economic Planning's ICT Master Plan 2001-2005 that highlighted gaps and weaknesses within the SIBET system that was being used at the time (GOK, 2013). This master plan proposed development of different modules comprising of Accounting, Revenue management, and Asset management among others.

It also proposed the establishment of interfaces with the National Bank payment information system, Kenya Revenue Authority and the Ministry of Labor for payroll and human resource management modules (Diamond & Khemani, 2008).

In addition to the above, the system was also supplied with additional analytical tools like Oracle Financial Analyzer and the Financial Statements Generator. A number of customizations were undertaken to configure the system to the government's business processes (Bartel, 2009). The Ministry of Finance has since reviewed the IFMIS implementation process. This IFMIS Re-engineering and this Strategic Plan seeks to enhance that process by identifying requirements, priorities and activities for the Re-engineering of IFMIS (Diamond & Khemani, 2008).

However, effectiveness problems have been cited particularly on the users front with studies showing problems with some of the IFMIS features like the standard data classification for recording financial events; Internal controls over data entry, transaction processing, and reporting; and common processes for similar transactions and a system design that eliminates unnecessary duplication of data entry in cash management (Diamond & Khemani, 2008).

Bartel (2009) asserts that the ease of use, reliability, security, flexibility of IFMIS that is meant to provide timely, accurate, and consistent data for cash management and budget decision-making has also been questioned by users who note that while IFMIS has been considered to be necessary, it has weaknesses that need to be addressed.

Recent literature on IFMIS has addressed various aspects of IFMIS design, systems development, implementation and sustainability Casals, (2009); Bartel, (2009); Miranda & Keefe, (2008), but no study has effectively looked at the effect of IFMIS on cash management and particularly on its efficient usage, its reliability, flexibility and security; factors which have had adverse effect on operationalizing IFMIS in Eldoret West District Treasury. That is why this study aims to investigate the effectiveness of IFMIS on cash management practices in the public service and particularly in Eldoret West District Treasury.

Eldoret West District Treasury was set up to decentralize planning and management of public funds to the districts. District treasury is under the Ministry of Finance under the Accountant General's Department. It is headed by the District accountant who reports to the permanent secretary ministry of Finance through the Accountant General. The treasury renders financial services to all government ministries and departments and the public at large. Looking at the functions of IFMIS in the district treasury, challenges, as earlier said, have been witnessed in the usage of the system, with users having problems with the flexibility, reliability and certain security and hard features of the system.

Objectives of the study

1. To analyze reliability of IFMIS on cash management in the public service
2. To establish security of IFMIS on cash management in the public service

1.4 Research Hypothesis

H₀₁: There is no significant effect of reliability of IFMIS on cash management in the public service

H₀₂: There is no significant effect of security of IFMIS on cash management in the public service

Literature Review

The Concept of IFMIS

According to both Dorotinsky (2003) and Rozner (2008) an IFMS is an information system that tracks financial events and summarizes financial information. It supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements. In its basic form, an IFMS is little more than an accounting system configured to operate according to the needs and specifications of the environment in which it is installed Rodin-Brown (2008). In general terms, it refers to the automating of financial operations.

The introduction of Integrated Financial Management Systems has become a core component of financial reforms to promote efficiency, security of data management and comprehensive financial reporting.

IFMS provides an integrated computerized financial package to enhance the effectiveness and transparency of public resource management by computerizing the budget management and accounting system for a government.

It consists of several core sub-systems which plan, process and report on the use of public resources, Rodin and Edwin (2008).

The scope and functionality of IFMS can vary across countries, but sub-systems normally include accounting, budgeting, cash management, debt management and related core treasury systems. In addition to these core sub-systems, some countries have chosen to expand their IFMS with non-core sub-systems such as tax administration, procurement management, asset management, human resource and pay roll systems, pension and social security systems and other possible areas seen as supporting the core modules, Brown (2008).

The scale of IFMS may also vary and be limited to specific country-level institutions such as the Ministry of Finance. However, IFMS is generally meant to be used as a common system across government institutions, including in the more ambitious schemes for federal, state and local governments. The integration of IFMS across the board ensures that all users adhere to common standards, rules and procedures, with the view to reducing risks of mismanagement of public resources, IFMS (2000).

Dorotinsky (2003) argues that there are a number of ways in which IFMS can improve public finance management, but generally IFMS seek to enhance confidence and credibility of the budget through greater comprehensiveness and transparency of information. They seek to improve budget planning and execution by providing timely and accurate data for budget management and decision making. IFMS allow a more standardized and realistic budget formulation across government, while promoting better control over budget execution through the full integration of budget execution data. They also allow for the decentralization of financial functions and processes under the overall control of the Ministry of Finance, enhance financial discipline and control operating costs by reducing administrative tasks and civil servants' workload.

In addition, IFMS also seeks to strengthen the efficiency of financial controls by making comprehensive, reliable and timely financial information available to the Auditor General, parliament, investigative and prosecutorial agencies, etc., as they improve accounting, recording and reporting practices through the provision of timely and accurate financial data, a standardized integrated financial management reporting system and an upgraded computerized accounting system. When they work well, they make bank reconciliation automatic and allow a closer monitoring of outstanding bills and cash in bank accounts, Junghun Cho (2003).

William (2003) argues that an IFMS is an information system that tracks financial events and summarizes financial information. In the private sector, such systems provide critical support for management and budget decisions, fiduciary responsibilities, and the preparation of financial reports and statements. In the government realm, IFMS systems must be designed to support distinctly public sector functions. They must be able to handle and communicate all the financial movements for the complex structure of budget organizations.

The scale of the IFMS will also vary depending on whether its operation is limited to selected central-level institutions, such as the finance ministry and treasury, or is implemented more broadly, to include line ministries, their spending agencies, and even regional and local governments and municipalities. These variations will have implications far beyond the cost of hardware and software installation, Casals et al., (2004).

Diamond and Khemani (2008) further mention that all manner of reports can be generated; balance sheets, sources and uses of funds, cost reports, returns on investment, aging of receivables and payables, cash flow projections, budget variances, and performance reports of all types. Some systems have libraries consisting of hundreds of standard reports. Managers can use this information for a variety of purposes; to plan and formulate budgets; examine results against budgets and plans; manage cash balances; track the status of debts and receivables; monitor the use of fixed assets; monitor the performance of specific departments or units; and make revisions and adjustments as necessary, to name a few. Reports can also be tailored to meet the reporting requirements set by external agencies and international institutions like the International Monetary Fund (IMF).

Reliability of IFMIS and Cash Management

Generally, the objective of implementing FMIS is to increase the effectiveness and efficiency of state financial management and facilitate the adoption of modern public expenditure practices in keeping with international standards and benchmarks.

The Joint Financial Management Improvement Program JFMIP (2010) described the core financial system requirements of a reliable system as the ability to: Collect accurate, timely, complete, reliable and consistent information; Provide adequate management reporting; Support government-wide and agency policy decisions; Support budget preparation and execution.

Apart from training the staff to mitigate the risks of underutilization there would be a need to disseminate general awareness of the functionality of the package. There are challenges associated with basic infrastructure issues, viz. remote connectivity and unreliable power supply that can not only cause damage to the hardware but also result in affecting its operations. The IFMIS project thus would have to provide for reliable generators, circuit breakers and UPSs etc. Miranda & Keefe (2008)

However when speaking about reliability of IFMIS, two sources for success are referenced. Diamond and Khemani (2008) promote the use of a modular approach to IFMIS implementation, with the initial introduction of just the core functions of budget execution, accounting, payment processing, commitment control and financial reporting. Based on experience in Ethiopia, Peterson (2006) argues that process change not process (innovation) re-engineering is the best method to improve the reliability of IFMIS. The consensus in the PFM community is that the modular approach is the best method. There does not appear to be a consensus on the nature of process engineering. It is our experience that process improvement can be accomplished as part of the modular approach. Reform processes require capacity building that can be enhanced through modular implementation followed by progressive activation which later improves on IFMIS reliability.

Much of the work in automating PFM systems has focused on implementing an integrated financial management information system, including general ledger, accounts payable, accounts receivable, procurement, payroll, asset management, debt management, budgeting, etc. This approach might be too large to implement effectively, in a timely fashion, or to achieve results and has in many countries hampered overall IFMIS reliability Asselin & Srivastava (2009). It is better to think of automating some core part of the system, such as general ledger, and accounts payable and receivable, with an eye to adding-on or replacing the system within a few years. Other points in this regard were to start from where you are in terms of PFM system development, rather than from where you want to be and also to recognize that not everything may need to be automated. As IFMIS systems evolve, the needs will change, so the scope of the automation can be expanded. Given the rapid change in technology, it may not be feasible to plan all of these potential needs or IT options in advance, Bartel (2009).

Security of IFMIS and Cash Management

According to Casals (2009), the use of IT is vital and must be protected from any form of disruption or loss of service and so it is essential that the availability, integrity and confidentiality of the IT system and data are maintained at a level that is appropriate for IFMIS needs. This IT security policy should be based on several international accepted standards such as the ISO 17799, and CobiT and best practices developed by the professional organization like the IFAC, ISO, ISACA, IIA, etc. Peterson et al, (2008). The CobIT is a framework for IT governance and control developed by the information System Audit and Control Association (ISACA) which has gained wide acceptance internationally.

The purpose of the IT Security Policy should be to establish a framework for implementing security and control measures of the computerized information systems in IFMIS. Recognizing that information provided by the computerized systems is key to the operation of the IFMIS business, it is essential that the information and the infrastructure which supports it is secure from destruction, corruption, unauthorized access and breach of confidentiality whether accidental or deliberate Embretson & Hershberger (2009). According to Bartel (2009), IFMIS security has often been compromised because the under mentioned Information security management basic objectives which must be maintained at all times have always been compromised:

Confidentiality- ensuring that the IFMIS data is not disclosed or revealed to un-authorized person. Integrity- ensuring consistency of the data, i.e. preventing creation, alteration, or destruction of data. Availability- ensuring that the legitimate users are not denied authorized access to resources such as information, computing and communication resources when required. Authorized use- ensuring that the IT resources are not used by un-authorized persons; Non-reputation- ensuring that one does not deny or alter the information sent across the IFMIS network.

When talking about security, IFMIS technical policies in form of usernames and password should be considered. Under the technical policies certain other issues are inherent and they include:

Scope- The use of information systems shall be protected by access controls to ensure that only authorized users have access. This access shall be restricted to only those capabilities that are appropriate to each employee's job duties. Therefore all users, vendors and service providers shall require usernames and passwords to access IFMIS computer resources.

Super Administrative Access- The business owner or his designee shall authorize persons to hold such passwords to the IFMIS system. Audit Trails- Activities of all users on the IFMIS system shall be monitored and audited on a regular basis. Default Passwords- All default passwords shall be changed upon implementation of the equipment on the IFMIS network. IT responsibilities- The IFMIS IT Administrators shall be responsible for the administration of access controls to all IFMIS computer systems.

Managing Passwords- The selection of passwords, their use and management as a primary means to control access to systems shall strictly adhere to the password. In particular, passwords shall not be shared with any other person for any reason. Password Aging and Expiry- IFMIS system and user passwords shall be configured to expire after period of one month interval and thus forcing users to change their passwords. The password age is variable depending on outstanding circumstances on which the user is created. Password History- The system shall be configured in such a way that passwords already used on the IFMIS system are not re-used.

Password Complexity- IFMIS Passwords shall be a combination of both alpha/numeric characters and the minimum password length shall be set. User responsibilities- IFMIS users shall be responsible for all computer transactions that are made with his/her User ID and password. Automatic Locking- The Computers shall be configured in such a way to automatically lock after 10 minutes of inactivity.

Research Methodology

Descriptive survey research design was used in this study. The target population for the study was 70 staff and top management from Eldoret west treasury department. Primary data was collected using questionnaire and interview schedule. All the respondents participated in the study. Data was analyzed using descriptive statistics in form of percentages, frequencies standard deviations and means. Similarly, both correlation and Regression analyses was used to test the relationship between the variables.

Findings of the Study

According to hypothesis statement, reliability of IFMIS has no significant effect on cash management (H_{01}), research findings show inconsistency with the hypothesis since reliability of IFMIS recorded a beta coefficient (β) of (0.131, $\rho=0.004<0.05$), hence the hypothesis is rejected. A reliable system is basically one that is accurate, timely, complete and consistent in collection of information. Additionally, reliability is further evidenced by provision of adequate management reporting; support government-wide and agency policy decisions and support budget preparation thus enhancing cash management.

Cognate to hypothesis statement, security of IFMIS has no significant effect on cash management (H_{02}), research findings show inconsistency with the hypothesis since security of IFMIS recorded a beta coefficient (β) of (0.342, $\rho=0.000<0.05$), hence the hypothesis is rejected.

ANOVA Results

Study results in table 1. Revealed that F value 146.433, with p value = 0.000 significant at 0.05, this implies that the joint prediction of aforementioned independent variables of cash management is significant. This shows that the model can be used in future to predict cash management. Moreover, findings showed non-existence of multi co linearity.

Table 1: Anova Model

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	64.973	4	16.243	146.433	.000b
Residual	18.857	170	0.111		
Total	83.83	174			

a Dependent Variable: cash management

b Predictors: (Constant), personnel training, security, flexibility, reliability

Recommendation

- The study recommends that the administration should ensure the information generated by IFMIS is consistent, timely and adequate.
- The public service should tailor information concerning IFMIS in such a way that it cannot be tampered with by others. Also, there should be sufficient IFMIS controls to curb tampering.
- Public service should also ensure that IFMIS easily adapts to the changes in cash management practices without complete overhaul of the system.
- A personnel training in IFMIS is important for quality cash management. Personnel training should not only include training in use of the IFMIS for their respective operations and functions, but also training in the new legal and regulatory framework, the new codes and classifications, and the new business procedures put in place.

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