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INFLUENCE OF ORGANIZATIONAL ARRANGEMENT AND SYSTEM COMPLEXITY ON ADOPTION OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM BY UASIN GISHU COUNTY GOVERNMENT, KENYA

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ABSTRACT: *Over the past decade, developing many countries has increasingly embarked on efforts to computerize their government operations, beginning especially with the public financial management (PFM). Among the most common systems implemented is the integrated financial management information system (IFMIS). The system computerizes and automates key aspects of budget execution and accounting operations across institutions of government. The study investigated factors affecting the implementation of IFMIS in Uasin Gishu County Government. Based on the study, this paper explores the effect of organizational arrangement and system complexity on successful implementation of IFMIS in Uasin Gishu County. The study employed a correlation research design. Stratified random sampling method was used to select 170 respondents from a target population of 566 County's employees who used IFMIS. Data was collected by means of a questionnaire and was analysed using descriptive and inferential statistics. The findings of this study revealed that organization arrangement (β=.51, P-.000) had a significant effect on implementation of IFMIS in Uasin Gishu County. However, system complexity (β=.01, P-.000) had no significance effect on implementation of IFMIS. Therefore, the study recommended that the Uasin Gishu County government should embrace change of management since it enhances many positive benefits to an employee's life, including a better greater job satisfaction, more autonomy, increased energy, creativity, motivation and morale. As work becomes more sophisticated and more technology-dependent, the importance of virtual teams will increase rapidly.*

KEYWORDS: Organizational Arrangement, System Complexity, Adoption, Integrated Financial Management Information System, IFMIS, Uasin Gishu, Kenya

INTRODUCTION

Financial management is an important managerial effort in any organization. E-government utilizes e-commerce tools to make the interaction between government and citizens (G2C), government and business enterprises (G2B), and inter-agency relationships or government to government (G2G) more friendly, convenient, transparent, and in expensive. Al-Harthi (2003) contends that the G2G sector represents the backbone of e-government. In Kenya, solutions adopted for G2G sectors include the Integrated Financial Management Information System (IFMIS).Rodin-Brown (2008) notes that in the scale and scope of an IFMIS address budget, revenue, expenditure control, debt, resource management, human resources, payroll, accounting, financial reporting, and auditing processes across central government and County. The establishment of an IFMIS has become an important benchmark for the country's budget reform agenda often regarded as a precondition for achieving effective management of budgetary resources (Khemani & Diamond, 2005).

IFMIS entails the computerization of public expenditure management processes, including budget formulation, budget implementation and accounting with the help of a fully integrated

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system for financial management of the line departments and other spending agencies. The full system should also secure integration and communication with other relevant information systems. In the sphere of government operations, IFMIS refers 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 the purpose of financial management (Lianzuala & Khawlhring, 2008).

In the Kenya Vision 2030, the Government of Kenya (2008) projects that by the year 2030 public service will be "a citizen-focused and results-oriented" institution serving a rapidly growing economy and society. Furthermore, Kenya recognizes that a modern and results-focused public service is a prerequisite for the country's socio-economic transformation as envisaged under Vision 2030. To this end, measures have been initiated in order to improve public service delivery with e-government being one of them. The 2010 constitution sets out the overall guidelines on the management of public resources and provides for enactment of specific legislation to give effect to the same Chapter 12 (Article 201-205). The Strategy for Public Finance Management Reforms in Kenya 2013-2018 (Government of Kenya, 2013) provides a framework for implementing reforms envisaged in the Constitution, the Public Finance Management Act 2012 and other Public Finance legislation (enacted pursuant to the provisions of Chapter 12 of the Constitution), as well as taking forward the reform agenda started under the 2006-2011 PFM strategy.

IFMIS was first launched in 2003 in Kenya, but only limited modules were introduced with other financial management processes remaining manual. IFMIS Re-engineering, which is an initiative of the Finance Ministry, aims to enhance efficiency and effectiveness in Public Financial Management (PFM) and was launched in early 2011. According to the Government of Kenya (2012), the IFMIS system ensures higher degree of data quality improves workforce performance for improved business results and links planning, policy objectives and budget allocations.

Relationship between Organizational Arrangement and Implementation of IFMIS

IFMIS is not just a technical change towards automation: they actually constitute an organisational reform, because they affect the work processes and institutional arrangements that govern the management of public finance (Combaz, 2015). Hendriks (2013) asserts that an IFMIS implies both efficiency reforms and reforms that change existing procedures. Institutional reform is, however, not easily achieved and, according to the International Consortium of Governmental Financial Management (ICGFM) (2008, p. 166), it takes time, commitment, champions and courage to achieve.

Diamond and Khemani (2005) contend that the introduction of a new information system fundamentally changes the way operations are carried out and therefore requires a carefully managed process. This process results in the creation of a new organisational culture, that is, change in the way the organisation operates. In Rwanda, for example, there were three teams responsible for the development of the IFMIS. Lack or little co-ordination between the teams resulted in the IFMIS being incompatible with the system developed for the Rwanda Revenue Authority (Hendriks, 2013).

The success of IT reforms depends on the capacity of the organisation to change, to manage the change and to survive whilst changing Fernandez and Rainey (2006). Resistance to change may come from various stakeholders in the organisation, such as individuals with vested

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interests who benefited from previous methods, civil servants who see it as a threat to their jobs and people who resist change simply for fear of the unknown.

According to Alamil (2015), an organizational arrangement strategy should be developed as soon as an IFMIS project was conceived, taking into consideration the change implications for diverse stakeholders, that is, from politicians and senior officials to heads of departments, civil servants and the IT personnel who will support the new systems. If this aspect is not addressed early in the project, the project will constantly be faced with resistance and obstacles from elected politicians, executive officials and personnel who will use the systems regularly. The best way to overcome organizational arrangement will be through clear communication, education and training, as well as through 'quick wins' that demonstrate the benefits of the change (Robbins *et al*., 2013). The communication can be done through a variety of workshops, seminars, training sessions, conferences, or newsletters (Hendriks, 2013).

Relationships between System Complexity and Implementation of IFMIS

In its main report on the 2004 Country Integrated Financial Assessment, the World Bank contented that the IFMIS is highly complex, sophisticated and expensive. Having chosen this route, the Government of Kenya set itself to face a number of major challenges to fully realize the benefits of the system while ensuring the security is not compromised. Effectiveness of IFMIS depends on the robustness and flexibility of the technological solution. The technology chosen must be flexible to adapt to evolving conditions and allow the system to be smoothly extended to other parts of government.

From an accounting financial reporting perspective failure to address specific issues relating to the sustainability, functionality and extension of the system are liable to result in higher rather than lower levels of fiduciary risk. In particular, there is a need to ensure that either internally or externally there is sufficient capacity to manage the ongoing implementation process funds is available for the maintenance of the system government can retain staff at all levels that have the capacity to utilize the system effectively the coverage of the system is comprehensive, and funding is available to facilitate any future rollout (Kimwele, 2011).

Further, the associated country financial accountability assessment reported the following risk: "should the IFMIS fail there is no current back up at the moment other than the continued use of existing systems in parallel" (GAO, 2004). Diamond and Khemani (2005), in a World Bank study on the introduction of an IFMIS in five African countries, recommend that: "careful evaluation of the salaries and packages for the relevant staffing both public and private sector should be done including an assessment of the implications of improved salaries for the broader public sector environment. Such a strategy would aim at striking balance between the need to attract/retain qualified staff."

Uasin Gishu County

Uasin Gishu is one of the counties of Kenya created after the promulgation of the 2010 constitution of Kenya as the units of the devolved government. The powers of county governments are provided for in Articles 191 and 192, in the fourth schedule of the Constitution of Kenya and the County Governments Act of 2012. The constitution, under Public Finance Management Act 2012, provides the county governments with at least fifteen percent of the most recently audited accounts approved by parliament to enable them deliver on their mandates. County governments also receive grants or financial transfers from the national

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government and are also allowed to borrow loans from private lenders though this has to be guaranteed by the national government. Moreover, county governments may also obtain revenue from rates charged on property, entertainment tax and charges imposed on the delivery of services.

The County Governments Public Finance Management Act of 2013 mandates the county governments with the task of maintaining proper accounts and other records, in respect of the county revenue fund, the county emergencies fund and other public funds at the county government. Furthermore, it stipulates that the county should ensure proper management and control of, and accounting for, the finances at the county government in order to promote efficient, effective and prudent use of the county's budgetary resources among others as provided by the Acts.

With the devolution of huge amounts of financial resources to the counties, the adoption of the IFMIS is very critical. As a result, Integrated Financial Information System (IFMIS) was introduced by the national treasury of Kenya. Integrated Financial Information System is an application 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 was needed to allow transparency and accountability of financial resources. However, over the last few years, there has been hue and cry over the efficiency and effectiveness of Integrated Financial Information System (IFMIS), accounting system adopted, where its underlying structure and implementation has not yielded successful results, particularly in Uasin Gishu County of Kenya.

Statement of the Problem

Over the past decade, developing, transition and post-conflict countries have increasingly embarked on efforts to computerize their government operations, particularly with respect to public financial management (Hove & Wynne, 2010). Most common among these have been efforts to introduce integrated financial management information systems (IFMIS) that computerize and automate key aspects of budget execution and accounting operations across the institutions of government. IFMIS was first launched in 2003 in Kenya, but only limited modules were introduced with other financial management processes remaining manual (Khemani & Diamond, 2005).

Incidences of financial misappropriation in developing countries, Kenya included, have highlighted the need to find more efficient systems of resource management. Despite the acknowledged importance of financial innovations and broad descriptive literature, there have been few empirical studies carried out. This state limit financial innovation on the much needed information regarding the factors affecting implementation of IFMIS in counties in Kenya and sometimes may lead to negative outcome.

It was introduced in county government in 2013 in order to enable prompt and efficient access to reliable financial data and help strengthen government financial controls, improving the provision of government services, raising the budget process to higher levels of transparency and accountability, and expediting government operations. However, since its introduction, Uasin Gishu County is among other counties in Kenya that have not fully adopted the system (Kahari, Gathogo & Wanyoike, 2015). Few studies have been done to look at the factors affecting implementation of IFMIS in Kenya. The study, therefore, sought to find out the factors affecting implementation of IFMIS in Uasin Gishu County, Kenya.

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MATERIALS AND METHODS

The study was conducted using correlation research design .It targeted a total population of 566 employees of Uasin Gishu County Government, especially those who were conversant with IFMIS in their respective departments. The selected departments included Procurement, Accounts, Finance and Budgeting departments. The study employed stratified sampling method in which each department was considered a stratum. From each of these strata, employees were randomly selected to represent the various departments. The sampling technique was used since the population has well organized structures where the respondents can be put into stratum. The research used a sample of 170 county government staff from the target population. Questionnaires were used for data collection. The instrument was developed to suit the context of the study. Items on IFMIS, organizational arrangement, system complexity were rated on a five point Likert scale ranging from 1-"strongly disagree" to 5-"Strongly agree". The data collected data was uploaded into the data analysis software for analysis. Data was analysed using descriptive statistics to generate frequencies, mean distribution and standard deviation of the variables. Multiple regressions were then used to determine the relationship between the independent and dependent variables. The researcher also performed regressions to determine the significance of the independent variables (organization arrangement and system complexity) on dependent variable IFMIS implementation; the level of significance was tested at 0.05.

RESULTS

The research examined the influence of organizational arrangement and system complexity on the implementation of Integrated Financial Management Information System in Uasin Gishu County. The descriptive statistics were as shown in Table 1 below.

Table 1: Descriptive Statistics of the Study (N =160)

Variables	Mean	Std. Dev.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
IFMIS	3.97	.500	-1.532	.192	3.550	.381
Organisation arrangement	3.92	.623	-1.139	.192	1.330	.381
System Complexity	3.90	.250	-1.374	.192	5.852	.381

Source: Research Data (2017)

The findings shown in Table 1 above indicate that the descriptive mean for IFMIS was M 3.97; *SD*. 500, which indicate that majority of the county staff disagree with the statements provided for. These suggest that county staff still faces lots of challenges on the use of the system. The findings also show that the descriptive mean of organization arrangement was M 3.92; *SD*.623, which indicates that majority of the county staff, did not agree that organization arrangement has enhanced IFMIS system. This implies that the county does not employ organization arrangement strategies such as delegation and configuration in using IFMIS with its staff. The finding further indicate that the descriptive mean of system complexity was M 3.902; *SD*.250. This implies that the County staff did not believe that IFMIS is complex, complicated and lack a study and reference manual.

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A correlation analysis was further carried out to determine the relationship between IFMIS, on the one hand, and Organisation Arrangement (OA) and System Complexity (SC), on the other hand. The results were as shown in Table 2 below.

Table 2: Pearson Correlation (N =160)

Variables	Correlation Analysis			Reliability Analysis
	IFMIS	OA	SC	
IFMIS	1			.723
OA	.78**	1		.516
SC	.05	.03	1	.753

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Data (2017)

The findings in Table 2 above show that there was a statistically strong relationship between IFMIS and organisation arrangement (r .78, $P < .01$). This implied that organizational arrangement correlated with IFMIS. The findings suggest that IFMIS relates positively with organization arrangement. However, the relationship between IFMIS and system complexity was negligible; meaning that implementation of IFMIS in Uasin Gishu County has nothing to do with system complexity.

Hypothesis Test Results

The first hypothesis (H_{o1}) stated that there is no significant relationship between organizational arrangement and implementation of IFMIS in Uasin Gishu County. The results showed a β=.51, *P*- .000, implying that organizational arrangement has a significance effect in successful implementation of IFMIS with a model predicting a magnitude of 0.41. This is supported by (t =23.9, *P*- .000). Suggesting that, organizational arrangement is significantly and positively associated with implementation of IFMIS. Therefore, the hypothesis was rejected. The second hypothesis (H_{o2}) stated that there is no significant relationship between system complexity and implementation of IFMIS in Uasin Gishu County. Results found a β=.01, *P*- .000, implying that system complexity has no significance effect in implementation of IFMIS in Uasin Gishu County with a model predicting a magnitude of 0.02. Therefore, H_{o2} is accepted.

DISCUSSION

IFMIS and Organization Arrangement

IFMIS is one of the many systems and programmes that are used in E-governance and public finance management reforms initiated by many developing countries with views of establishing prudent spending of public funds as well as creating efficiency in the public sector. County governments are supposed to implement (IFMIS) which will ensure transparency and efficiency from the budget making implementation. The system also ensures that procurement plan, requisition to payment of supplies is automated and every budget item has a specific vote making the implementation of project and government procurement more transparent. From the findings of the study there's a strong relationship between these factors and successful implementation of integrated financial management information system.

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The research results showed that organizational arrangement has a significance effect in implementation of IFMIS. This suggests that organizational arrangement can have a detrimental effect on employee morale and productivity. It is best for county governments to provide resources to its employees in order to prepare for better implementation of IFMIS. When it is finally implemented, employees will have the new skills needed to be able to smoothly transition into using an IFMIS platform or program. According to Robbins *et al*. (2013), the best way to overcome organizational arrangement is through clear communication, education and training, in order to demonstrate the benefits of the change. The findings of the study were also in line with those of Hendriks (2013), who argue that organizational arrangement can be achieved through a variety of workshops, seminars, training sessions, conferences or newsletters.

The findings of this study further reiterated those of Diamond and Khemani (2005) who note that the introduction of a new information system fundamentally changes the way operations are carried out and therefore requires a carefully managed process in every organization. They further corroborated the results of a study by Alamil (2015), who recommend that organizational arrangement strategy should be developed as soon as an IFMIS project was conceived, taking into consideration the change implications for diverse stakeholders, that is, from politicians and senior officials to heads of departments, civil servants and the IT personnel who will support the new systems. According to Bryson (2011), the best way to overcome organizational arrangement is through clear communication, education and training, in order to demonstrate the benefits of the change. In line with the study, Hendriks (2013) posits that organizational arrangement can be done through a variety of workshops, seminars, training sessions, conferences or newsletters.

IFMIS and System Complexity

The study further established that system complexity has no significance effect on the implementation of IFMIS in Uasin Gishu County, suggesting that technicality of running IFMIS is not a problem to the county staff of Uasin Gishu. Therefore, one could argue that the staff in the County believes there are benefits to using the IFMI system. The staff also believed that they possessed the ability to perform better using IFMIS therefore system complexity is a factor which does not affect implementation of IFMIS in Uasin Gishu County. These study findings are in line with those of Chatterjee, Grewal and Sambamurthy (2002) who report that the most critical success factor for complex systems like enterprise is a management support.

The findings of the study concurred with those of Venkatesh and Bala (2008), who argue that the determinants of perceived usefulness of an innovation will not influence perceived ease of use, and the determinants of perceived ease of use will not influence perceived usefulness. Ttherefore, individuals will adjust to system complexity after they gain direct hands-on experience with the new system. Other prior research has also suggested that one of the most critical success factors for complex systems like enterprise systems is a management support (Lam, 2005; Choe & Shin, 2010; Chaudhury & Bharati, 2008; Liang *et al.*, 2007). Based on the study findings, one could argue that IFMIS has been fully integrated in Uasin Gishu County. The business processes at the County have been re-engineered to suitably accommodate and capitalize on the matured and sophisticated system processes and workflows.

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CONCLUSION

Organizational arrangement affects the effective use of the system by employees. Therefore, the county government should emphasize on its configuration so as to be more flexible in order to suit the IFMIS. The government should also invest in expertise on how to use IFMIS, organize seminars and training on IFMIS and have exchange lessons between departments such as IT with regard to IFMIS operations. The research findings also established that there is no significant influence of system complexity on implementation IFMIS in Uasin Gishu County. As such, IFMIS suffers from little technicalities. Therefore, system complexity does no influence the effective use of the system. Moreover, IFMIS is not too complex to use in processing of information.

RECOMMENDATIONS

Organizational arrangement is an influential factor in IFMIS implementation. The Uasin Gishu County government should strengthen the implementation of IFMIS, since it yields many positive benefits to employee performance, including a better greater job satisfaction, more autonomy, increased energy, creativity, motivation and morale. As most workplaces become more sophisticated and technology-dependent, the importance of virtual teams is raising increase rapidly. The County Government should delegate duties to speed up the implementation of IFMIS. The government should also put in place all the necessary configurations to user departments to support a more significant shift towards undeterred work.

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