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Integrated Financial Management Information System: a conceptual framework for Migori County, Kenya

Abstract

In the modern world, developing countries like Kenya, Tanzania, Ethiopia and several others in the African continent have been encouraged to reform their public expenditure management systems through computerization of the entire public sectors in response to the increasing volume of data or information that need to be processed. There are, however, various factors to be considered prior to the implementation of the public expenditure management information systems. This paper undertakes a theoretical review of the critical success factors that impact on the implementation of an Integrated Financial Management Information System (IFMIS) with a view to identify factors applicable to the Migori County of Kenya. The paper, then, identifies the key factors to be incorporated in the proposed IFMS framework. The proposed framework draws from the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT) and the Work Around Theory (WAT). The paper fuses these theories towards a successful adoption of use of modern technology within the public sector IFMS. The key factors include technical, organizational, environmental, cultural and ethical behavior. These factors could improve efficiency and transparency through direct payments to suppliers and contractors, reduced prices due to gains based on the time value of money, as well as the comparative analysis of market rates and advanced relations across the numerous organizational units within government on execution, reporting, and thoroughness of budget transactions.

Keywords: Integrated Financial Management Information System (IFMS), implementation, technology, public expenditure, framework, critical success factor.

JEL Classification: E62, D83.

Introduction and background

This paper assesses factors impacting on the Integrated Financial Management Information (IFMIS) implementation in Migori County government in Kenya.

IFMIS is an information system that enables efficient resource allocation, improves management decision making through availing timely financial and other information to aid in accelerating economic growth. This system has been championed by the World Bank to help countries in the management of their public funds since 1984. Amongst the regions funded by World Bank, Latin America and the Caribbean regions stand out having successfully implemented IFMIS.

In Europe, Umble et al. (2003) conducted a study and found that successful implementation of information systems projects is of critical importance to the prosperity and even survival of modern organizations. This is because effective use

of IFMIS usually leads to significant improvements in organizational productivity (Mandal and Gunasekaran, 2003) and often provides organizations with crucial competitive advantages (Poon and Wagner, 2001).

Several studies indicate that the IFMIS implementation has had problems with the implementing agencies. For example in the UK, Sarikas and Weerakkody (2007) noted IFMIS failures. The authors argued that the failures associated with the system could be classified broadly to be resulting from technological issues, political factors and organizational factors.

The systems implemented in Africa have also had challenges with Ibrahim and Dauda (2014) arguing out corruption challenges amid other issues. Hendriks (2012) acknowledges a number of those challenges such as functional, corruption, implementation and data migration challenges. Further, Qwabe (2014) supports Hendriks (2012) that corruption is a major factor that inhibits the effective implementation and use of the IFMIS in Africa.

As asserted by Hendriks (2012), the effective implementation, operation and maintenance of IFMIS require staff with the necessary knowledge and skills. However, lack of capacity is an inhibition to effectiveness of IFMIS implementation. According to Hendriks (2012), one of the other major causes for the delay in the implementation and adoption process of IFMIS experienced by governments in Africa is lack of capacity.

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There have been additional models by researchers on the factors influencing IFMIS implementation. For example, Bwalya et al. (2014) point out that the factors that can be studied on the implementation of IFMIS are subdivided into three: individual factors, institutional factors and contextual factors. It should be noted that user capacity factors and technological factors are key in the Zambian context, noting complexity of the system, lack of a clear picture of the benefits that users derive from the system and lack of top management support.

In Kenya, recent research was conducted in respect of IFMIS ranging from its benefits, constituents that affect it, its effects on supply chain management, challenges in the central government, its impact on performance and performance in projects (Omwoha and Getuno, 2015; Odolo and Gekara, 2015; Lundu and Shale, 2015; Gekara and Odolo, 2015; Njenga et al., 2014; Kiilu and Ngugi, 2014; Secretariat, 2013; Odago and Mwajuma, 2013; Mary, 2012). Similar studies on IFMIS were conducted on the devolved government of Mombasa, Taita Taveta, Bungoma, Nyandarua, Meru, Kericho, Nairobi, Nakuru, Kakamega, Muranga, Kiambu and Migori by Mwaura (2016), Rotich (2015), Kahari et al. (2015), Bonventure (2015), Karanja and Ng'ang'a (2014), Mary (2012), Musee (2011). Further, a relatively large number of such studies in the Kenyan context have used questionnaires, which are either open-ended, closed-ended or a mixture of both and published materials as a source of data. However, there are currently substantial challenges to the effect that IFMIS is still encountering at the county governments in the management of public funds.

The theories that were deductively used to guide the paper into the factors that influence IFMIS include the Technology Acceptance Model (TAM), Work Around Theory (WAT) and Innovation Diffusion Theory (IDT). These theories assisted with the understanding of management information systems implementation.

1. Problem statement

From 1984 to 2010, the World Bank financed 87 IFMIS projects in 51 countries, totaling over US \$2.2 billion with various country governments co-financing it to the value of 25% (Dener et al., 2011). Despite the IFMIS project, achieving its intended operational and technical performance, only 89% remained operational, and Africa is noted to have high failure rates of organizations. The general problem is that recent studies on IFMIS implementation have only been investigating its aspects of performance, impeding factors, impact on governance, effects on supply chain management, and challenges in the central government. However,

there is no single study that has effectively synthesized the underlying adoption factors and developed an adoption framework for the implementation of an IFMIS in the public sector. As a result, this paper seeks to answer the following research question "What are the critical success factors in the adoption and successful implementation of an IFMIS in the public sector in Kenya?"

2. Objectives of the article

- ◆ To undertake a literature study on factors that influence implementation of IFMIS.
- ◆ To identify the critical success that influence implementation of IFMIS.
- ◆ To assess the effects of adoption of IFMIS in the management of public funds.
- ◆ To locate the factors to be incorporated into the proposed conceptual IFMIS framework.

3. Methodology

The paper is purely theoretical in nature; hence, is based on studies conducted by various authors. A full-scale paper from the full research will conduct an empirical study employing the mixed method approach.

4. Significance of the paper

The paper is useful to both the national and county government decision makers, who include the Governor, Cabinet Secretaries, Finance Officers, and ICT personnel in Migori County Government (MCG). It locates key factors that could be incorporated into the proposed framework for enhancing the performance of the IFMIS. The paper can further assist key decision makers with factors to consider in the successful adoption of the system and other similar management information systems, thus, improving governance and management of public funds. It provides additional insight on the success factors that influence successful implementation of the IFMIS, which could be incorporated in future funding budgets of such program by various development partners such as the World Bank who has been financing the IFMIS project since 1984. The paper, in addition, would be of use to the scholars and academics by adding to existing body of knowledge on IFMIS. To the software developers and vendors, the paper adds to the body of knowledge on factors that need to be incorporated in future designs or redesigning of the system based on the suggested specific improvements to enhance the performance of the system.

5. Literature review

The paper draws from three theories in investigating the issues of IFMIS adoption for public financial management. The theories include: Innovation

Diffusion Theory (IDT) by Rogers (1995), Work Around Theory (WAT) that tries to establish how users can work around systems obstacles advocated by Alter (2014) and the Technology Acceptance Model (TAM) by Davis (1989), which is most widely used by several researchers that examine the adoption of IFMIS and user acceptance, as observed by Sternad et al. (2011).

Innovation Diffusion Theory (IDT)

The IDT is an established theory that provides the foundation for technology innovation diffusion research. It represents innovation adoption that aids in evaluating technology (Rogers, 1995). The four main elements of the diffusion theory that have been identified by Rogers (1995) are innovation, communication channels, time and the social system.

Rogers posits that innovation must be perceived by the user as new and it is influenced by the following five factors: Complexity, Compatibility, Trial-ability, Observability and Relative Advantage. These factors affect the adoption of innovation of a system and will be studied on the IFMIS, which is a new system to the MCG. However, certain of the factors have been expanded further with the introduction of perceived ease of information management systems usage as noted by Vogel and Cheung (2013), which will also be explored in the paper.

Second, the theory involves communication, which Rogers (1995) asserts that it plays different roles as a process at the various stages in the innovation decision process. The paper explores the various decision channels, the change agents, the training of skills and the communication structures that have been used in the implementation and adoption of IFMIS in Kenya.

Third, Rogers (1995) observed that every innovation involves time in three aspects: the innovation decision process (process of forming an attitude towards an innovation), innovativeness of an individual (innovators, early adopters, early majority, late majority and laggards) and the rate of adoption (the speed at which members of a system adopt an innovation). IFMIS is a system that takes time to implement, hence, the paper confirms the three aspects of the time as noted by Rogers (1995), as it relates to the system.

The last element of the IDT is the social system. This involves a set of interrelated units that are jointly working together to solve a problem with an aim of accomplishing a common goal (Rogers, 1995). The organizations can be perceived to involve a lot of units, but all of them are working together in the solution of problems to reach the common goal. Rogers (1995) further adds that the social system can influence positively or negatively

the implementation or adoption of a system. The paper looks at the social system surrounding the IFMIS in Kenya to confirm its influence in the systems adoption and implementation.

Work Around Theory (WAT)

WAT is defined as a goal-driven adaptation that users of a system carry out to bypass or minimize the obstacles that are perceived to deter work performance (Alter, 2014). This might however be presumed to be negative, as Alter (2014) further observes, but this can be guided ethically to enable an individual to achieve the otherwise desired results. Numerous users perceive that IFMIS has certain obstacles with its use. Hence, WAT can be used to model parts of the system either at organizational level or at individual levels. Alter (2014) further observes that such obstacles or mishaps may be inherent in the system or emergent processes which may appear from any factor that contributes to successful adoption and use of technology such as organizational, technological and environmental factors. Therefore, the theory will be embedded in the IDT that defines innovation as a process and tries to look at how the process has engaged work around systems within the IFMIS.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems theory developed by Davis (1989) that shows how users appreciate and use technology. The model focuses on how technology is adopted and used with much emphasis on determinants of user acceptance of information technologies. It comprises of two major theoretical frameworks: the perceived usefulness (PU) of the system and perceived ease of use (PEOU), as noted by Vogel and Cheung (2013). Perceived use, as defined by Davis (1989), is the degree to which a person believes that using a particular system will enhance their job performance, whereas perceived ease of use refers to the degree of easiness an individual will have in using a particular system, which both influence satisfaction, adoption and attitude towards technology (Davis, 1989).

Though the theoretical model has been postulated to have various shortcomings such as not considering the organizational setting and moderating effects (Davis, 1989), it has been relatively used widely in the implementation of systems. The paper, therefore, adopts its help in determining how individual factors influence the implementation of IFMIS at the county governments in Kenya, looking at both the PU and PEOU of the system.

Since the 1980s, major international aid agencies, such as the World Bank, have promoted Integrated Financial Management Information Systems

(IFMIS) as a core element in reforming public financial management (PFM) in developing countries. The expectation is that IFMIS will make information on public finances comprehensive, efficient, secure and transparent. However, in numerous cases, these systems frequently fail to realize the promised benefits (Sussi, 2012; Hendriks, 2012; Alawattage et al., 2007).

Recent research that has been conducted on the management information systems used in the management of public funds, points out that IFMIS has faced implementation or adoption challenges (Aminatu, 2012; Ibrahim and Dauda, 2014; Karanja and Ng'ang'a, 2014; Musee, 2011; Gekara and Odolo, 2015; Kiilu and Ngugi, 2014; Lundu and Shale, 2015; Bonventure, 2015; Kahari et al., 2015). This has been corroborated by studies carried out by other researchers in other countries such as Australia, India, Singapore, South Africa, Zambia, Tanzania and Kenya (Qwabe, 2014; Njenga et al., 2014; Bwalya et al., 2014; Pishdad and Haider, 2013; Goel et al., 2013; Minani, 2012; Sandeep, 2011).

The following subsections review literature on factors that have been identified in the theoretical framework as having a bearing in the implementation of IFMIS.

Technological factors

Technological factors are defined as the basic system functionality that includes both the software and the hardware of the IFMIS (Bonventure, 2015; Sussi, 2012; Hendriks, 2012; Cain, 2012; Chêne, 2010). Several researchers have indicated that technology impacts on the successful implementation and adoption of management information system (Bwalya and Mutula, 2016; Omwoha and Getuno, 2015; Sussi, 2012; Hendriks, 2012; Cain, 2012). Though Proeller (2013) points out that complexity of a system makes it more likely to be positively appreciated as compared to very simple systems, Chêne (2010) also argues that making the right and simple technical choice for automation is so critical to the successful adoption and implementation of MIS. The platform on which the interconnectivity of the MIS operates also impacts on the successful implementation of the system and this involves the internet and the intranet facilities, as stated by Odunga (2015).

The technical challenges that impede the accomplishment of IFMIS key objectives are numerous. Certain of the challenges include: lack of IT capacity that works with the system, resistance due to complexity and technical challenges of the software (Hendriks, 2012). Hendricks points out that one of the major factors impeding successful implementation of IFMIS especially in the public

sector is lack of capacity with IT knowledge. This can be due to the disparity in salary rewards of the private and public sectors with the private sector rewarding better salaries (Chêne, 2010). Additionally, low budget on personnel emolument leads to inadequate capacity. Studies in other countries indicate lack of IT staff as a major contributor to the slow implementation of IFMIS (Diamond and Khemani, 2005).

According to Dener et al. (2011), IFMIS is a complex and risky system that requires motivation to change so as to be implemented effectively. This requires both the top management and the staff to be willing and committed to change in the use of technology. Considering its complexity, the commitment will greatly influence how the IFMIS will be implemented or adopted into the organization. The lack of commitment to change may be attributed to factors such as a need for *status quo* on the use of old manual systems, fear of risks that may occur in implementing the IFMIS and also fear of not knowing how to operate the new systems or a perception of ease of the system usage (Hendriks, 2012).

In Tanzania Chêne (2010) observes that there was noted a failure until the IT solution selected was a medium software package, which was significantly less complex comparatively to what is used, for example, in Ghana. It should be noted that such a system was backed by top management support.

Similarly, in Ethiopia, the IFMIS project has faced numerous complications. The project implementation was not well resourced due to dependence on foreign aid policies, infrastructure issues and top management support due to changes in leadership (Chêne, 2010). In addition, not all implementation strategies are accepted by the staff as expected by the management and this may be termed as a form of resistance. Most people resist to adopt a certain new strategy such as IFMIS due to the fear of venturing to the unknown or not wanting to leave the past behind. Resistance comprises of two main categories: active and passive resistance. Passive resistance entails accepting the strategy implementation verbally, but not following the proposed plan either through ignorance or following what they think to them is right. Active resistance, on the other hand, refers to where the employees reject the intended strategy verbally through critic, for example, by ridiculing or expressing the shortcomings of the intended plan (Chene, 2009).

Numerous IFMIS projects have also failed, because the basic system functionality had not been clearly specified from the onset of the intervention. In certain circumstances, interfaces with existing IT systems

have to be created to fit the country's specific settings. IFMIS, which involves major hardware requirements, is also meant to be subjected to the local context and environment with a consideration to use Off-The-Shelf (OTS) or locally developed software (Dener et al., 2011). In Malawi, for example, IFMIS required 50 servers, one central server and a local IFMIS server in each line ministry. Power shortage and interruptions meant that in certain countries, generators and power supply units are needed as well (Chêne, 2010).

Studies with Kenya Government IFMIS shows, that the system has not fully provided the expected benefits of integrated financial planning, effective budgeting and control of public expenditure. These studies have indicated lack of management support, capacity trained with IT skills and resistance (Rotich, 2015; Richard, 2015; Lundu and Shale, 2015; Kahari et al., 2015). Further, Mwaura (2016) notes that the use of obsolete infrastructure inherited from municipal governments cannot be able to handle the IFMIS software that require advanced and improved software and hardware.

Organizational factors

Organizational factors that impact on IFMIS are generally defined as institutional processes and arrangements that govern management of public funds (Ameen and Ahmad, 2012; Chêne, 2010; Sussi, 2012). Organizational factors that affect the adoption of IFMIS are organizational arrangements, capacity of user skills, top management support, skilled laborer demanding for more rewards, resistance due to trust and risk of use and support for the use by middle managers (Bwalya and Mutula, 2016; Lundu and Shale, 2015; Bonventure, 2015; Qwabe, 2014; Kiilu and Ngugi, 2014; Secretariat, 2013; Schniederjans and Yadav, 2013; Sussi, 2012; Peterson, 2002). Therefore, organizational factors needs to be looked at, as they affect the work processes and institutional arrangements that govern the financial management of public funds (Chêne, 2010).

A study of the influence of organizational arrangements on the adoption and implementation of IFMIS was conducted by Chêne (2010). The author emphasizes that the system requires organizational reforms, which deeply affect work procedures and institutional arrangements and this takes time, commitment, champions and courage to achieve. Similarly, a study conducted in Rwanda by Indeje and Zheng (2010) argued 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 a way the organizations operate. 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 (Hove & Wynne, 2010).

Several other studies in Kenya (Rotich, 2015; Richard, 2015; Lundu and Shale, 2015; Kahari et al., 2015), concentrated on aspects of e-procurement, which is an integrated part of the system, but did not address the core aspects of the IFMIS. However, they largely indicated that organizational arrangements have greatly influenced the implementation of IFMIS in Kenya.

Environmental factors

IFMIS implementation is also impacted by the environmental factors that include availability of external skills, stakeholders, vendor support, competing software developers, political, software vendor trusts and ethical influences (Zhao et al., 2015, Lundu and Shale, 2015, Bonventure, 2015, Qwabe, 2014, Secretariat, 2013, Cain, 2012, Elias, 2004, Healy and Perry, 2000, Richard, 2015). Chêne (2010) further adds that IT reforms are complex and risky and require major procedural changes, which meet a lot of resistance from the various stakeholders who benefit from the existing norms to the end users whose work might be radically changed.

Cultural and ethical factors

Relatively little research has been done to relate ethics with the successful implementation and or adoption of IFMIS. According to Zhao et al. (2015), culture and ethics are defined collectively as one's values or beliefs that distinguish the members of one group from another set of group that influences user behavior in the technology adoption. Further, Chowdhury (2011) defines culture and ethics as a set of moral principles that guide an individual or an organization into differentiating what is good from what is wrong. Considerable number of researchers have indicated tremendously how the IFMIS has been impacted negatively by corruption, which is an ethical element, as defined by Kerr and Houghton, (2014), Chowdhury (2011), Elias (2004). One of the key results that the IFMIS system would provide is a reduction of corruption and fraud through the controls embedded within the system, as has been noted by Bwalya and Mutula (2016), Qwabe (2014), Bwalya et al. (2014), Secretariat (2013), Prabir P. (2012), Hendriks (2012), Cain (2012), while, in practice, researchers have observed a lot of corruption cases associated with IFMIS in different government institutions and countries (Lundu and Shale, 2015; Kahari et al., 2015; Qwabe, 2014;

Njenga et al., 2014; Kiilu and Ngugi, 2014; Secretariat, 2013; Odago and Mwajuma, 2013; Hendriks, 2012; Sandeep, 2011). Recently, it was noted that the voices against the use of IFMIS in Kenya are the result of key decision makers concealing financial flaws in their counties (Odunga, 2015). Thus, there is a need to look at the ethical factors that impact on the successful implementation of the IFMIS in the management of public funds and also to provide literature on how successful IFMIS implementation is influenced by culture and ethics, which are investigated in this paper. Since culture and ethics are behavioral issues that influence adoption of IFMIS, it is consistent with the theoretical precursors of this paper, i.e., IDT, WAT and TAM.

Legal factors

Since the promulgation of the new constitution in Kenya in 2010, numerous changes have been made, for example, the Public Sector Finance Reforms. In 2005, the government introduced the Integrated Financial Management Information System (IFMIS) to help in the management of public funds. This, as in the case in South Africa, is a financial management reform practice meant to bring in efficiency, effectiveness, accountability, transparency, data security and comprehensive financial reporting, as observed by Hendriks (2012). The author further notes that the legal framework of a country impacts on the management information systems adopted. Echoing the same, Dener et al. (2011) also note that legal framework has a great significance on the management information system that a country would use in the management of public funds.

Effects of adoption of IFMIS in the management of public funds

Modern IFMIS platforms help governments to conform to international financial regulations and reporting standards and support devolved operations through centralized web-based solutions, providing access to a large number of authorized budget users at all levels (Minani, 2012). Other studies show that certain of the positive contributions of automated IFMIS solutions include improved efficiency and transparency through direct payments to suppliers and contractors (Rotich, 2015). It should be noted that it might also lead to a reduction in prices because of gains based on the time value of money, as well as the comparative analysis of market rates. Further, Qwabe (2014) adds that IFMIS solutions advance relations across the numerous organizational units within government on execution, reporting, and thoroughness of budget transactions.

More recently, the open budget proposal in the IFMIS led to an intensification in the delivery of public sector financial information for the public (Minani, 2012). In summary, IFMIS provides a great potential for increasing predictability, involvement, transparency, and government accountability (Bwalya et al., 2014).

6. Proposed framework

From the foregoing review of literature, it is inferred that the implementation of a successful IFMIS is influenced by several factors, which are situation-specific. However, they can be broadly classified as technological, organizational, environmental, cultural and ethical due to the following challenges that researchers have always identified:

- ◆ Organizational (Alawattage et al., 2007; Lundu and Shale, 2015; Sussi, 2012; Hendriks, 2012).
- ◆ Technological (Ngirachu, 2016; Bwalya and Mutula, 2016; Omwoha and Getuno, 2015; Ngunjiri, 2015; Qwabe, 2014; Hendriks, 2012; Cain, 2012).
- ◆ Capacity (Mwaura, 2016; Qwabe, 2014; Hendriks, 2012; Chêne, 2010; Alawattage et al., 2007; Diamond and Khemani, 2005).
- ◆ User training (Mwaura, 2016; Cain, 2012; Chêne, 2010; Gekara and Odolo, 2015; Goel et al., 2013; Hendriks, 2012).
- ◆ Management support (Bwalya et al., 2014; Cain, 2012; Diamond and Khemani, 2005; Karanja and Ng'ang'a, 2014; Kiilu and Ngugi, 2014).
- ◆ Corruption (Ameen and Ahmad, 2012; Cain, 2012; Ibrahim and Dauda, 2014; Kiilu and Ngugi, 2014; Kisero, 2016; Maina, 2015; Ngirachu, 2016; Njenga et al., 2014; Phiri and Chisala, 2009; Prabir P, 2012; Walubengo, 2014). There is a need to explore the causes of the above issues and to suggest ways in which such challenges can be mitigated and how the system can be enhanced for effectiveness in MCG. The main question that lingers in the researcher's mind are the factors that impact on the implementation and adoption of IFMIS, which have not been adequately addressed as pointed out by the governors in Kenya, as reported by Mzee (2015), Maina (2015) and whether addressing culture and ethics as a critical factor can aid in the reduction of the malpractices and corruption issues (Ngugi, 2016; Ngirachu, 2016; Kisero, 2016; Ngunjiri, 2015; Nation, 2015; Mzee, 2015; Maina, 2015).

It can be extrapolated from the above discussions that there are challenges that the IFMIS faces. The factors have been widely observed by researchers as technological, organizational and environmental.

However, this paper contributes to the cultural and ethical factors, which have been scarcely looked at by extant researchers.

Certain studies that have been carried forth in Kenya IFMIS issues with generalizations made on their findings have had very low response rates, for example, Lundu and Shale (2015).

There are, however, legal aspects that involve changing the constitutions on the implementation of management information systems used for the management of public funds in the country.

Several studies conducted by different researchers for example the ones carried out by Hendriks (2012) in South Africa and Diamond and Khemani (2005) have not developed frameworks that can be adopted in the improvement of the implementation of IFMIS, thus, giving impetus to this paper to develop a framework. Other studies done in Kenya (Mwaura, 2016; Rotich, 2015; Richard, 2015; Lundu and Shale, 2015; Kahari et al., 2015; Gekara and Odolo, 2015; Bonventure, 2015; Kiilu and Ngugi, 2014) also did not carry an in-depth analysis using interviews in their methodology. The proposed framework should, therefore, incorporate the following factors:

- ◆ environmental factors;
- ◆ organizational factors;
- ◆ technological factors;
- ◆ ethical factors;
- ◆ capacity;
- ◆ training;
- ◆ management support;
- ◆ corruption.

The framework relies on the independent variables of culture and ethics, technology, organization and environment as positive influencers on the way integrated financial management systems (dependent variable) can be implemented for better management of public funds in MCG.

References

1. Alawattage, C., Kholeif, A. O. R., Abdel-Kader, M., & Sherer, M. (2007). ERP customization failure. *Journal of Accounting & Organizational Change*, 3, 250-269.
2. Alter, S. (2014). Theory of Workarounds. *Communications of the Association for Information Systems*, 34.
3. Ameen, A. A., & Ahmad, K. (2012). Towards Harnessing Financial Information Systems in Reducing Corruption – A Review of Strategies. *Australian Journal of Basic and Applied Sciences*, 6.
4. Aminatu, M. (2012). The Impact of Integrated Financial Management System on Economic Development: The Case of Ghana
5. Bonventure, F. M. (2015). Challenges facing county governments in the implementation of integrated financial management information system: The case of taita taveta county. *International Journal Of Research In Commerce, Economics & Management*, 5, 11.
6. Bwalya, K. J., Du Plessis, T. & Rensleigh, C. (2014). E-government implementation in Zambia – prospects. *Transforming Government: People, Process and Policy*, 8, 101-130.
7. Bwalya, K. J., & Mutula, S. (2016). A conceptual framework for e-government development in resource-constrained countries: The case of Zambia. *Information Development*, 1.
8. Cain, K. (2012). Information, Not Technology, Is Essential to Accountability: Electronic Records and Public

Conclusion

The paper proposed a framework that links all the three theories on adoption, i.e., IDT, WAT and TAM. The compatibility, complexity, relative advantage, observability and trial ability relates to the technological aspect of innovation and since they involve processes, they should have imbedded in the systems ways in which users can be able to work around them when obstacles are faced. This will involve having system-based and user-based search solutions on ways of carrying out tasks and advanced search engines on other ways in which the system can be able to meet user needs. Adoption of innovation involves the following aspects: innovation decision process and innovativeness of an individual. This further influences the attitude of an individual towards the use innovation and leading to behavioral intention to use. Individual who can be able to work around obstacles or perceived obstacles around innovation would feel comfortable adopting to innovation use.

The paper concludes that innovation adoption and implementation is more than technology and individuals being able to work around systems to achieve their desirable goals, it also involves other dimensions such as organizational, environmental, ethical, legal and cultural issues that needs to be considered for successful implementation and adoption of IFMIS. Therefore, the framework will incorporate all the institutional processes, arrangements that govern the management of public funds, IT governance structure, change and behavioral management policies and training policies under the organizational dynamics. It will also consider external skills, stakeholders, vendor support, competing software developers, political, software vendor trusts under the environmental dynamics. Lastly, it will incorporate the legal factors under which the IFMIS platform works – Public Financial Management Act provisions and other regulations governing the management of public funds.

- Sector Financial Management. *The Information Society*, 17.
9. Chêne, M. (2010). The Implementation of Integrated Financial Information Management Systems (IFMIS). Transparency International.
10. Chowdhury, M. M. H. (2011). Ethical issues as competitive advantage for bank management. *Humanomics*, 27, 109-120.
11. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 319-340.
12. Dener, C., Watkins, J., & Dorotinsky, W. L. (2011). Financial Management Information Systems: 25 Years of World Bank Experience on What Works and What Doesn't, *World Bank Publications*.
13. Diamond, J., & Khemani, P. (2005). Introducing Financial Management Information Systems in Developing Countries. *OECD Journal on Budgeting*, 5, 97-132.
14. Elias, R. Z. (2004). The impact of corporate ethical values on perceptions of earnings management. *Managerial Auditing Journal*, 19, 84-98.
15. Gekara, M. G., & Odolo, I. A. (2015). The Effects Of Employee Skill Set In Integrated Financial Management Information System On Service Delivery In The Ministry Of Interior And Coordination Of National Government In Kenya. 4.
16. Goel, S., Dwivedi, R., & Sherry, A. M. (2013). Critical Factors for Successful Implementation of E-governance Programs: A Case Study of HUDA. *Global Journal of Flexible Systems Management*, 13, 233-244.
17. Healy, M., & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, 3, 118-126.
18. Hendriks, C. J. (2012). Integrated Financial Management Information Systems: Guidelines for effective implementation by the public sector of South Africa. *SA Journal of Information Management*, 14.
19. Ibrahim, S., & Dauda, S. (2014). Globalisation And The Emergence of Government Integrated Financial Management Information System (GIFMIS): The Nigeria's Experience.
20. Indeje, W. G., & Zheng, Q. (2010). Organizational culture and information systems implementation: A structuration theory perspective. *Sprouts: Working Papers on Information Systems*, 10.
21. Kahari, C. K., Gathongo, G., & Wanyoike, D. (2015). Assessment Of Factors Affecting The Implementation Of Integrated Financial Management Information System In The County Governments: A Case Of Nyandarua County, Kenya. III, 22.
22. Karanja, J., & Ng'ang'a, E. (2014). Factors Influencing Implementation of Intergrated Financial Management Information System in Kenya Government.
23. Ministries. *Research Journal of Finance and Accounting*, 5.
24. Kerr, D., & Houghton, L. (2014). The dark side of ERP implementations: narratives of domination, confusion and disruptive ambiguity. *Prometheus*, 32, 281-295.
25. Kiilu, R. M., & Ngugi, K. (2014). Effect Of Public Financial Management Reforms In The Effective Management Of Public Funds In Kenya- A Case Study Of The National Treasury. *European Journal of Business Management*, 2, 8.
26. Kisero, J. (2016). IFMIS is a vessel of corruption. *The Business Daily*.
27. Lundu, B. L., & Shale, N. (2015). Effect Of Intergrated Financial Management Information System (Ifmis) Implementation On Supply Chain Management Performance In The Devolved Government Systems In Kenya: A Case Of Nairobi City County Government. *International Academic Journal of Procurement and Supply Chain Management*, 1, 26.
28. Maina, S. (2015). County officials under probe over loss of millions. *Daily Nation*.
29. Mandal, P., & Gunasekaran, A. (2003). Issues in implementing ERP: A case study. *European Journal of Operational Research*, 146, 274-283.
30. Mary, M. (2012). Public Finance Reforms In Kenya Issue & Relevance Under The Context Of Devolution. PUBLIC FINANCE REFORMS IN KENYA. Nairobi: Society for International Development.
31. Minani, I. (2012). An Assessment of How Integrated Financial Management Information System Enhances Financial Decision Making at TANESCO and TTCL, Tanzania. *Information and Knowledge Management*, 2.
32. Musee, K. (2011). Factors affecting effective implementation of intergrated financial management information systems (IFMIS).
33. Mwaura, K. Z. (2016). Factors Influencing Implementation of Integrated Financial Management Information System in Devolved Government in Kenya. *The International Journal of Business and Management*, 4.
34. Mzee, F. (2015). There's no infrastructure for e-procurement in counties, governors say. *Daily Nation*, 27-09-2015.
35. Nation, D. (2015). Buying System Suspended after Governors' push. *Daily Nation*.
36. Ngirachu, J. (2016). Queries over IFMIS ability to end corruption. *The Daily Nation*.
37. Ngugi, B. (2016). Financial operations software is faulty, Treasury now admits. *Daily Nation*.
38. Ngunjiri, J. (2015). Looming health crisis as IFMIS system breaks down. *The Daily Nation*.
39. Njenga, A. N., Omondi, M. M., & Omete, F. I. (2014). Financial Management Reforms and the Economic Performance of Public Sector in Kenya. *European Journal of Business and Management*, 6.
40. Odago, M. O., & Mwajuma, A. A. (2013). Factors Affecting Effective Implementation Of E-Procurement In County Governments: A Case Study Of Kajiado County, Kenya. *International Journal of Business & Law Research in African Literatures*, 1.
41. Odolo, I. A., & Gekara, M. G. (2015). The Effects Of Employee Skill Set In Integrated Financial Management

- Information System On Service Delivery In The Ministry Of Interior And Coordination Of National Government In Kenya. *European Journal of Business and Social Sciences*, 4, 17-24.
42. Odunga, D. (2015). Rotich says governors resisting online tendering fear scrutiny. *Business Daily*.
 43. Omwoha, E. A., & Getuno, P. (2015). Constituents That Affect The Implementation Of Sustainable Public Procurement In Kenyan Public Universities: A Case Of Technical University Of Kenya. 2.
 44. Peterson, D. K. (2002). Computer ethics: the influence of guidelines and universal moral beliefs. *Information Technology & People*, 15, 346-361.
 45. Phiri, M., & Chisala, R. (2009). Quick Assessment Of The Integrated Financial Management Information System 'Summary of Key Findings and Recommendations' [online]. Lilongwe: UltiNetS. Retrieved from <https://malawiace.files.wordpress.com/2013/10/summary-of-key-findings-and-recommendations-of-gom-ifmis-review-2.pdf> [accessed 2016].
 46. Pishdad, A., & Haider, A. (2013). ERP institutionalization: exploring the influential factors. *Journal of Enterprise Information Management*, 26, 642-660.
 47. Poon, P., & Wagner, C. (2001). Critical success factors revisited: success and failure cases of information systems for senior executives. *Decision Support Systems*, 30, 393-418.
 48. Prabir P, G. P. S. (2012). e-Procurement Implementation: Critical Analysis of the Impact of Success Factors on Project Outcome. *The IUP Journal of Supply Chain Management*, 9(2).
 49. Proeller, A. K. I. (2013). Controlling the control system: performance information in the German childcare administration. *International Journal of Public Sector Management*, 26, 74-85.
 50. Qwabe, B. R. (2014). Integrated Financial Management Information System in the South African Government A multidimensional framework.
 51. Richard, M. (2015). Determinants o Integrated Financial Management System in Kisii County. Nairobi: Jomo Kenyatta University of Science & Technology.
 52. Rogers, E. M. (1995). Diffusion of innovations. New York.
 53. Rotich, G. K. (2015). Analysis Of Use Of E-Procurement On Performance Of The Procurement Functions Of County Governments In Kenya. *International Journal of Economics, Commerce and Management. United Kingdom*, 3.
 54. Sandeep, M. (2011). Integrated Financial MIS for Local Government Public Expenditure Management-A Case Study of Khajane in Karnataka.
 55. Sarikas, O. D., & Weerakkody, V. (2007). Realising integrated e-government services: a UK local government perspective. *Transforming Government: People, Process and Policy*, 1, 153-173.
 56. Schniederjans, D., & Yadav, S. (2013). Successful ERP implementation: an integrative model. *Business Process Management Journal*, 19, 364-398.
 57. Secretariat, C. (2014). In: SHAH, A., ed. 9 th Annual CABRI Seminar EXPLORING THE MISSING LINKS IN PUBLIC FINANCIAL MANAGMENT REFORMS, 28-30 August 2013 2013 Nairobi. Pretoria: Collaborative African Budget Reform Initiative (CABRI).
 58. Sternad, S., Gradisar, M., & Bobek, S. (2011). The influence of external factors on routine ERP usage. *Industrial Management & Data Systems*, 111, 1511-1530.
 59. Sussi, B. (2012). Adoption of free/libre open source software in public organizations: factors of impac. *Information Technology & People*, 25, 156-187.
 60. Umble, E. J., Haft, R. R., & Umble, M. M. (2003). Enterprise resource planning: Implementation procedures and critical success factors. *European Journal of Operational Research*, 146, 241-257.
 61. Vogel, D., & Cheung, R. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers and Education*, 63, 160-175.
 62. Walubengo, J. (2014). Will IFMIS really eliminate corruption? *The Daily Nation*.
 63. Zhao, F., Wallis, J., & Singh, M. (2015). E-government development and the digital economy: a reciprocal relationship. *Internet Research*, 25, 734-766.