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Technical Factors as Determinants of Effectiveness of Ifmis in the County Governments In Kenya

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Abstract:
Background*:IFMIS is anchored on Chapter 12 of the constitution as well as PFMA (2012). The Kenyan government implemented the Integrated Financial Management Information System (IFMIS) in 2013 as the primary public financial management system. Previously, the Kenyan government was marred by many instances of financial mismanagement, which saw the government losings billions of shillings. This means that service delivery was poor given that money set aside for funding the services ended up in people's bank accounts. Therefore, the many benefits envisaged from the IFMIS was the main reason it was selected as the main accounting system. In 2010, following the ratification of a new constitution, 47 other smaller governments in these counties were formed. The county governments were also required to adopt the IFMIS system. However, for 10 years now, since the county governments were created and started using the system, financial mismanagement cases have continued to exist. Therefore, this study sought to investigate technicalas determinants of effectiveness of IFMIS in the county governments of Kenya. The study was guided by the following theories; Actor-Network Theory and the Technology Acceptance Model theory.*
Materials and Methods*: A descriptive research design was used in the study. Simple random sampling technique was used in selecting participants from 3 central region counties; Nyeri, Nyandarua and Kirinyaga. A total of 60 participants were used in the study. Primary data was gathered from the respondents in Kirinyaga, Nyeri and Nyandarua counties using a questionnaire. Quantitative data was analyzed using SPSS version 22.0 software. Inferential statistics in the form of multiple regression and paired t-tests and descriptive statistics was used to analyze the data. The results were presented in the form of tables, pie charts, and graphs.*
Results*: Findings indicated that technical factors had a significant and positive relationship with the effectiveness of the Integrated Financial Management Information Systems in the county governments in Kenya.*
Conclusion:*Based on the findings of the study, the study concluded that technical factors were good determinants of the effectiveness of integrated financial management information systems in the county governments in Kenya.*
Key Words*: Effectiveness of IFMIS, Technical factors, County governments*

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I. Introduction

Every government must have the ability to raise resources, enabled by tax collection or acquiring debt, to offer its citizens the required services. However, how a government collects and spends money is very important. Public Financial Management (PFM) is the government's process of gathering and spending money to offer services. The purpose of PFM is to ensure a government effectively and efficiently uses public resources. As a result of this, many governments worldwide have tried to implement various information communication technologies (Athanne, 2011).

However, the adoption of various ICT applications is high in developing nations. According to Heeks (2002), adopting information financial management systems is vital for supporting accountability in the use of public resources and job creation, positive economic stimulation, and an improvement of the citizens' quality of life. Nonetheless, the effectiveness of information systems varies in developing and developed nations. Unlike developing countries, developed nations have much more advanced technologies and financial resources to help implement the systems. In addition, most developing nations have a limited number of skilled personnel, inadequate infrastructure, and limited computer application that can help them adopt new information systems (IS).

IFMIS is a system of information, which tracks events of a financial nature and deals with financial information summarization. It leads to suitable management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements (Hendriks, 2013). There are however

numerous determinants of effectiveness of IFMIS programs not limited to project coordination that's ineffective; planning and design that's loose; technology that's not adequate; commitment that's not high level; resistance to change by the institution; and not enough sufficient capacities for IFMIS amongst the involved staff (Combaz, 2015). This study will focus on human capital factors, technical skills, political factors and commitment by top management.

Technical skills factors entail the knowledge of the basic system functionality that includes both the software and the hardware of the IFMIS. The technical knowhow of the IT challenges that impede the accomplishment of IFMIS key objectives are numerous and having the skills to solve them is important (Otieno, Migiro&Mutambara, 2017). For the selected technology to be operational, it has to be flexible and robust. Small starting systems that slowly grow have low chances of failure since risks associated to them can be managed better (Combaz, 2015).

IFMIS was introduced in 1993 following a survey carried out in various governments by the International Monetary Fund in conjunction with the World Bank (Kioko, 2017). The survey's primary objective was to determine the impacts of computerizing a government's auditing and accounting systems. According to Kinyua (2003), computerizing the auditing and accounting systems would help a government predict its cash flow, manage public debt, monitor fiscal deficit, and generate credible and reliable financial statements. Before introducing IFMIS, the accounting and financial systems used by various governments worldwide had low accuracy, transparency, and accountability indexes.

The integrated financial management information system (IFMIS) is an information system that allows for tracking of financial data and providing output reports that can be used in auditing all financial transactions. However, Rodin-Brown (2008) states that IFMIS refers to the automation of the PFM processes from a government's perspective. IFMIS system ensures that a government has effective financial transactions hence eliminating any misappropriation of funds. The decisions they make are backed by information derived from their public-sector functions. Chene (2009) notes that detecting corruption is one of the significant benefits of the IFMIS systems. Various governments worldwide, both in developed and developing nations lose billions of dollars to corruption. However, with IFMIS, detection of corruption is much easier.

Una and Pimenta (2016) studied the various strategic aspects and challenges of implementing IFMIS in Latin America and noted that all Latin American countries had implemented the IFMIS system which makes the region a leader in the world for implementing ICT for financial management purposes. Various Latin American countries had upgraded their IFMIS over the years, including Uruguay, Peru, Panama, Nicaragua, Honduras, the Dominican Republic, Chile, Brazil, and Argentina. Nonetheless, in the process, the countries have had to undergo various setbacks.

Additionally, Rodin-Brown (2008) carried out a survey involving six countries to determine the various approaches each took to implement the IFMIS systems, determine the common problems and features faced and how they can be solved and avoided by other countries seeking to use the IFMIS. In Slovakia, the significant factors supporting the effectiveness of IFMIS was political will. All government institutions led by the Ministry of Finance clearly defined what tools they needed from the IFMIS and what goals were to be achieved. A bid was then put depending on the needs assessment, out of which Hewlett-Packard won and thus installed the systems.

South Africa is amongst the few countries that rely heavily on transverse information management systems. The transverse system includes all administrative systems needed by the provincial and national departments, including audit systems, supply chain management, human resource management financial management, and the police financial management system. However, in 2005, the South African government approved implementing the IFMIS system to replace the old transverse information management system, associated with many problems (Hendrick, 2013). However, South Africa has wasted vast sums of money, over 100 million dollars, to implement the IFMIS system (Hendricks, 2013). The IFMIS systems were to be fully implemented by 2011 as reported by South Africa's National Treasury and were to take three phases.

East African nations have adopted IFMIS to improve accountability and transparency in their financial operations within the various government departments. Combaz (2015) notes Tanzania is one of the most successful Anglophone African Countries to implement IFMIS. IFMIS effectiveness in Tanzania was a success as a result of various factors. The government fully supported the IFMIS effectiveness by crafting legislation, accounting principles, and systems arrangements. There was solid political backing that trickled down from the management to low-level staff. Tanzania's Ministry of Finance spearheaded the capacity-building efforts across all departments. Following the increased concern on a need for better PFM, the government launched IFMIS in 2003, and its implementation began in 2004 across various government departments. However, the IFMIS did not integrate all PFM modules, and in 2011-2013, an IFMIS re-engineering process was started by the Ministry of Finance on February 28, 2011 (Atieno, 2019). However, at the time, the Kenyan constitution had given rise to 47 other smaller governments, in this case, counties. As per the new constitution, the county governments have indicated that they would also implement IFMIS. The central government rolled out the implementation of

IFMIS in 2012 within county governments. However, by 2013, the effectiveness was still very slow as only 19 counties had begun using the system (Imbuye, 2013). However, by 2016, most counties had already started using IFMIS in managing their financial activities.

Nonetheless, despite almost all counties having implemented the IFMIS, they still face significant pending bills. This is supported by a report released by the Auditor General of Kenya on the IFMIS effective report, which showed that in 2014, it stood at 22.1% compared to the counties at 6% (Kagali, 2019). This is a clear indication the IFMIS objective is not yet attained within the county governments hence the lack of proper implementation of PFM. A good example is seen in the case whereby in the financial year 2013/2014, the total pending bills amounted to 62 billion, Nairobi County had the largest pending bills amounting to 58 billion, followed by Nakuru and Machakos at 1.3 billion and 712.9 million, respectively (Kagali, 2019). This indicates that if nothing is done to improve the IFMIS efficiency, Kenya will not attain its PFM goals soon.

II. Problem Statement

The County Government Act of 2012 and Articles 191 and 192 of the Kenyan Constitution gave rise to the geological units referred to as counties, 47 in number. Before the formation of the county governments, the central government had taken strides in trying to improve history-long financial misappropriations within the public financial management. The county governments are thus also required to implement the IFMIS system that was reengineered in 2013 as part of all their financial activities.

County governments have grappled with delays in the procurements processes due to IFMIS. Some activities are manually done, leading to duplication of supplier payments, which have led to pending bills (Kagali, 2019). A study by Kagali (2019) found out that in 2014/2015, 40 out of 47 counties reported on pending bills. The total pending bills for the 2013/2014 financial year amounted to Kshs. 62.8 billion, out of which Nairobi County had the largest share of Kshs. 58 billion, followed by Kshs. 1.3 billion for Nakuru County and 712 million for Machakos County. The pending bills have continued to rise and in the 2017/2018 financial year report, the Auditor General indicated that they amounted to KSHs 88.98 billion (The National Treasury, 2018). This is a clear indication that despite IFMIS being implemented, it has not yet yielded the expected results.

Several researches have been carried on the technical factors affecting the effectiveness of integrated financial management information systems mostly in developing countries. In their study, Khemani and Diamond (2005) investigated the reason behind the almost universal failure to implement and sustain financial management information systems in upcoming countries and revealed that the key factors were lack of incentives for reform, overestimating the information and failure to reengineer procedures. Hendriks (2013) examined the risks and challenges faced in IFMIS effectiveness in South Africa; he found that a number of challenges are involved in the effectiveness of an IFMIS. These studies indicate that the effectiveness of IFMS remains a challenge in most developing countries.

In Kenya, a study by Otieno, Migiro and Mutambara (2017) studied the impact of the implementation and effectiveness of IFMS in Migori County and established that IFMS not only improves transparency and efficiency through payments made direct to contractors and suppliers, but also results to reduce prices due to gains based on the time value of money. The study however did not investigate the factor influencing the effectiveness of IFMS. Odoyo, Adero and Chumba (2014) investigated the effect of IFMIS on cash management practices in the public service with the outcome that the reliability and flexibility of IFMIS positively affect cash management. Majority of studies on IFMIS focus more on the effects and roles of IFMS on performance of public sector institutions. Very few authors have dedicated their efforts towards establishing the factors that affect the effectiveness of IFMIS by county governments in Kenya. Counties IFMIS effectiveness is still ineffective, and that is what has necessitated the conducting of this researcher to determine the various factors that determine the effectiveness of IFMIS in the three Central Region Countries.

III. Literature Review

This study was guided by the actor-network theory and the technology acceptance model theory. The Actor-Network Theory was formulated by Callon (1986). The main feature of the actor-network theory is that it focuses on the relationship between technology and the social environment. The theory is based on the principle that many other things must also act for an actor to act. Simply put, an action is not the result of a single entity but rather a multitude of elements, whether human or non-human. The main feature of the actor-network theory is the effect of non-human elements on social processes (Creswell, Worth & Sheikh, 2010). In this case, an actor is defined as an action's source irrespective of its status, human or non-human. However, for the act to act, it must involve many other actors. Basing on this network, it seems to argue that technology is not an external force that impacts human beings. Instead, it can shape social interactions as it emerges from social interest, whether professional or economic. Given that the world is made up of various networks that can include

humans, concepts, and ideas, they are considered actors within the networks. A vital feature of the actor-network theory is tracing the relationships between the actors.

This theory was relevant in the study as it focused on various actors such as government officials, county government employees, and county government management, among others on the IFMIS. This theory was thus vital in showing the relationships between actors including non-human factors such as technical actors and human factors including political, top management commitment and human resource skills and the IFMIS, which in this case, the network.

Fred Davis and Richard Bagozzi formulated TAM theory in 1986. According to the TAM theory, computer use is determined by two factors; perceive ease of use and perceived usefulness. The perceived ease of use is based on the individual's perception that technology will not need much effort and will be easy to use. Therefore, the perceived ease of use and perceived usefulness are essential determinants towards an individual's adoption of a given technology (Vankatesh& Davis, 2000).

External factors affect the two factors and are manifested in terms of political, cultural and social factors. Social factors can include skills and language; cultural factors can consist of beliefs, norms and values related to technology, while political factors include political will, organizational or country political climate. However, many studies have been carried out over the years that have led to a change of the original theory. In 1995, Taylor Todd integrated the TAM with the theory of planned behavior (TAM-TPB). Additionally, Venkatesh and Davis (2000) introduced a new variable to the original TAM theory and formulated a TAM2 theory. Another study by Chau and Hu (2002) added the peer influence variable into the TAM theory.

This theory was relevant in the study as it was used in determining the behavioral intentions of IFMIS users basing on their attitudes towards using the IS and its effectiveness. Employees might now welcome the new system if they feel it will not improve their performance or render them jobless. Furthermore, political, cultural and social factors can also impact the user's ability to use the IFMIS. This theory helped in determining the relationship between county government employees' attitudes and the effectiveness of the IFMIS by showing the connection between human resources skills, political factors and top management commitment and the effectiveness of IFMIS.

IV. Conceptual Framework

The conceptual framework outlines the relationship between the dependent and independent variables.The figure below outlines the study's dependent and independent variables relationships;

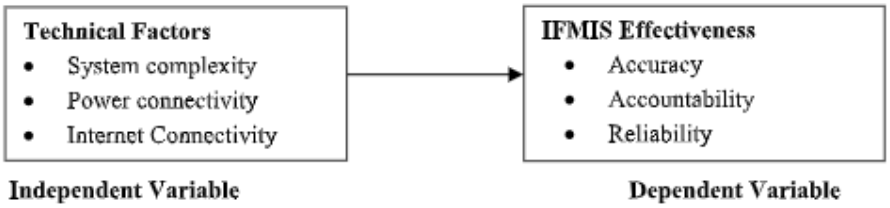

Fig 1: Conceptual Framework

IFMIS is largely a new concept or system granted that it is yet to take sufficient roots especially in the national Governments departments. Needless to say, therefore, this system is bound to face considerable resistance from the staff expected to implement it. To overcome this resistance there needs to be effective change management. Barcan (2010) describes change management as the creation, maintaining and systematic evaluation of changes in an organization. The objective of change management besides overcoming employees' resistance is to maximize the institution's capacity to achieve success through involved, educated and committed personnel.

O'Sullivan (2008) posits that change management includes stakeholder's management model, a communication strategy, technological change, and a change-readiness assessment framework and certain design elements. Indeje and Zheng (2010) contend that the introduction of a new information system such as IFMIS fundamentally changes the way operations are carried out and, therefore, requires a carefully managed process in order to avert probable staff resistance. This process results in the creation of a new organizational culture, that is, change in the way the organization operates. An IFMIS generally implies fundamental changes in operating procedures and should be preceded by a detailed functional analysis of processes, procedures, user profiles and requirements that the system will support (Chêne, 2009).

The changes associated with the introduction of IFMIS should be communicated to the staff in order for the same to embrace it. Kinyeki and Kipsang (2008) observe that the management of technical changes that accompany an IFMIS effectiveness is viewed as one of the most crucial, yet, one of the most neglected aspects of IFMIS reforms. The success of any reforms boils down to the capacity of an institution to change, to manage

the change and to survive whilst changing. He further warns that resistance to technical change may emanate from various organizational stakeholders. These may include amongst others, persons with vested interests such as members of staff who benefited from previous methods, civil servants who perceive the change as an imminent threat to their jobs and also individuals who resist change simply because they dread the unknown.

According to Joshi and Moore (2010), an IFMIS project director must have among others capacity to entrench organizational technology change management specially to overcome any resistance. Technical change management strategies should be developed immediately an IFMIS project is conceived. Consideration for change implications for different stakeholders; be they politicians, senior officials, heads of departments, IT personnel, civil servants, amongst others who are expected to support the new system ought to be taken.

Through the IFMIS Re-engineering process as outlined in the Kenya's IFMIS Re- Engineering Strategic Plan 2011 – 2013, the Kenyan government hopes to address the change management and communication challenges previously experienced in the pilot phase of IFMIS implementation, which greatly contributed to lackluster performance of the system. The strategic plan identifies the political, administrative and capacity constraints that require rigorous interventions with the object of securing the buy-in and ownership attributes necessary within Government Ministries, Departments and Agencies (MDAs) to facilitate effectiveness of IFMIS and improve the confidence of all relevant stakeholders (GOK, 2010).

A number of studies have been carried out on technical factors and effectiveness of IFMIS. Kimwele (2011) carried out a study to determine the various factors that affect the effectiveness of IFMIS in Kenya's government ministries. According to the researcher, the IFMIS implementation and effectiveness of the process has not progressed as expected, and this indicated several issues had to be addressed before the implementation. The study was based on an exploratory research design. The study population comprised 42 government ministries that were implementing the IFMIS system. The researchers found out that 735 of the respondents cited technical factors, and staff resistance as core factors hindering the successful implementation and effectiveness of IFMIS. The study thus conduced that resistance was the major effect of users not adopting IFMIS. However, the researcher also found out that the other variables also played a considerable role in the effectiveness of IFMIS in the ministries.

In another study, Macharia (2013) sought to determine the various factors affecting the adoption of information systems in private sectors. The study was carried out in Kiambu County. According to the researcher, Kenya has embarked on Vision 2030 mission to become a technology innovation leader in East Africa and Africa. The researchers found out that 50% of the participants cited technical factors, staff literacy as significant determinants of IS adoption. Additionally, 71% of the participants believed that the information system characteristics play a vital role in IS adoption. In comparison, 64 % stated they did not think external pressure impacted IS adoption while another 52.9% believed top management traits play a vital role in ISA adoption. From the study, information system characteristics significantly influence IS adoption.

Chene (2009) states the success of any automation highly depends on the technical choices. The chosen technology must support flexibility and robustness. Chene (2009) notes that the progressive effectiveness of any system allows an organization to reduce risks as it is better managed. Chene (2009), found out that most IFMIS failed because the implementers could not specify basic functionality requirements from the start. There is a need for the IFMIS system to meet the organization's functional requirements and needs. This means that spending more time during system implementation is crucial. Another major technical challenge highlighted in the study is the selection between custom-built and off-the-shelf systems.

For the proper functioning of the IFMIS system, it must meet the users' local needs. A system that does not align with the users' local needs ill results in more allocation of resources such as time and money to customize it, which can render the entire system ineffective. More importantly, Chene (2009) noted that the successful functioning of a system requires hardware. In the case of Malawi, the government has set up 50 servers, where each ministry has its server, which has led to the effective functioning of the IFMIS. More importantly, in countries with significant power interruptions and low internet connectivity, the IFMIS will not work as expected.

V. Material and Methods

This study was carried out in Kenya in three counties namely Kirinyaga, Nyeri and Nyandarua counties, which formed the population of the study.

Study Design: In this study, a descriptive research design was used. A descriptive research design enables a researcher to interpret and describe the participants' attitudes, settings, and conditions (Mertler, 2019). Additionally, a descriptive research design allowed the researcher to obtain a given population's opinions, characteristics, and actions (Fraenkel, Wallen& Hyun, 2012). This research design was thus suitable for this research as the researcher aims at getting information on various factors affecting the effectiveness of the IFMIS

by asking relevant questions related to the given population's attitudes and perceptions. In addition, this research design allowed the researcher to get factual and accurate information as per the questions asked.
Study Location: This was the county governments in Kenya.
Study Duration: The study covered the periods 2018-2021.
Sample size: 36 respondents.
Sample size calculation: From the total population simple random sampling was used to determine the sample used for the study. A sample size of between 30 to 40 percent of the target population's good representation and hence, for analysis, it is adequate (Mugenda&Mugenda, 2013).

Procedure methodology

The study will rely on primary data. Primary data is gathered directly from the source by a respondent, while secondary data is gathered from existing sources (Mugenda&Mugenda, 2013). The study will rely on primary data as it is reliable and more credible. In most cases, secondary data can contain biases from the original authors. Primary data was gathered from respondents for the period 2018-2021 from the county governments offices in Kirinyaga, Nyeri and Nyandarua counties.

The reports were used in determining the effectiveness of the IFMIS. In the study, a questionnaire was used in gathering primary data. Beatty et al. (2019) note that questionnaires are the most commonly used data gathering instrument as they allow a researcher to obtain large amounts of data from a given population within the specified time frame. Additionally, administering a questionnaire is simpler and more cost-effective. The study relied on an online questionnaire that was sent to the respondents' email addresses.

Statistical analysis

The research will rely on both qualitative and quantitative data. Quantitative data was gathered through questionnaires. Data collected was coded before it was quantitatively analyzed. The SPPSS version (20.0) was used in analyzing the data. The manipulated data was then presented in the form of means, percentages, and variances per variable. The data results were also presented in the form of pie-charts and tables.

Qualitative data was gathered from the IFMNIS reports; content analysis was used to analyze the secondary data sources. Mugenda&Mugenda (1999) note that content analysis allows researchers to analyze and interpret data as it is gathered. However, to show the relationship between the independent and dependent variables, a multilinear regression equation model was used. The multilinear regression equation model used was as shown below:

$$\hat{Y} = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

Where:

Y= IFMIS effectiveness
X1= Technical factors
X2=Human resource capacities
X3=Political factors
X4=Top management commitment
ε= Error Term
β1 to β4 = Regression Coefficient of three Dependent Variables
β0= The regression constant or intercept

VI. Results

Descriptive Statistics Analysis

This section presents the descriptive statistics on the variable of the study. Descriptive statistics such as mean scores, standard deviations and percentages were used to generate the summary measures suitable for describing the variables of the study.

Descriptive Statistics for Technical Factors

Respondents were requested to indicate their views as to how the following statements relating to technical factors as a determinant of effectiveness of integrated financial management information systems in the county governments in Kenya, and the findings presented in table 1 below.

Table 1: Technical Factors

Statement	SA	A	N	D	SD	Mean	Std. Dev
The IFMIS system is user friendly	32.5	49.2	5.9	7.6	4.8	2.10	0.927
The IFMIS system is too complex to use	36.2	37.5	12.6	11.2	2.5	1.89	1.141
The IFMIS system is compatible with office software	38.2	39.8	6.4	8.4	7.2	2.12	1.049
Employment of staff with the right skills and technical knowhow is essential towards the effectiveness of IFMIS	34.6	40.1	8.3	12.1	4.9	2.48	1.212
The IFMIS system can detect and identify undesirable occurrences	28.4	53.7	3.8	9.4	4.7	2.25	1.029
There is reliable internet connectivity in the offices, which supports IFMIS use	30.6	56.7	2.6	7.5	2.6	2.64	1.116

The findings on table 1 above indicates that majority of the respondents with 81.7% (mean=2.10, SD= 0.927) agreed that IFMIS system was user friendly, 5.9% of the respondents were neutral to the statement, whereas 12.4% of the respondents were not in agreement with the statement that IFMIS system was user friendly.

The study sought to investigate whether the IFMIS system was too complex to use. Findings revealed that majority of the respondents with 73.7% (mean=1.89, SD=1.141) agreed with the statement, 12.6% of the respondents were neutral to the statement, and 13.7% of the respondents were not in agreement with the statement

Respondents were also in agreement that the IFMIS system was compatible with office software with 78.0% (mean=2.12, SD=1.049) agreeing with the statement, 6.4% being neutral to the statement, and a further 15.6% not in agreement with the statement.

As to whether employment of staff with the right skills and technical knowhow was essential for effective IFMIS implementation, respondents with 74.7% (mean2.48, SD=1.212) agreed with the statement, 8.3% of the respondents were neutral to the statement, whereas 17.0% of the respondents were not in agreement with the statement.

Respondents were also in agreement with 82.1% (mean=2.25, SD=1.029) that the IFMIS system can detect and identify undesirable consequences, and that there was reliable internet connection in the offices which supported IFMIS use with 87.3% (mean=2.64, SD=1.116). These findings revealed that there was a significant and positive relationship between technical factors and IFMIS effectiveness among county governments in Kenya.

These findings imply that county governments have done a lot in terms of ensuring that the IFMIS system is user friendly and compatible with office software. They have also ensured that there is reliable internet in offices to support the use and effectiveness of IFMIS. This in essence means that technical factors affect the effectiveness of IFMIS in the county governments.

These findings agreed with those of Otieno, Migiro and Mutambara (2017) who opined that technical factors support the effectiveness of IFMIS in the County Governments. These findings were also in agreement with those of Oyinlola, Folajin and Balogun (2017) who examined the IFMIS effectiveness on public sector performance in Nigeria, and whose outcome of the study showed existence of an optimistic relation between IFMIS effectiveness and financial reporting, internal controls, and other technical factors. It was established that a relation existed between IFMIS in public sector, internal control, and technical factors which affected 72.4 percent of the IFMIS effectiveness.

Inferential Analysis
This entails the model summary, the analysis of variance (ANOVA) and the regression coefficients.

1. Model Summary
Regression analysis was conducted to empirically determine the linear relationship between the independent variables and the dependent variable and the results of the model summary presented in table 2 below.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512[a]	.569	.182	.39268

a. Predictors: (Constant), Technical Factors
b. Dependent Variable: Effectiveness of IFMIS

The goodness of fit for the regression model testing for the relationship between the independent variable and dependent variable was satisfactory. The model summary results indicate that the independent variables explain 56.9% of the variation in the dependent variable as indicated by the coefficient of determination of 0.569.

II.Analysis of Variance (ANOVA)

Table 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.302	4	.575	2.949	0.034[b]
	Residual	6.633	28	.195		
	Total	8.934	32			

a. Dependent Variable: Effectiveness of IFMIS
b. Predictors: (Constant), Technical Factors

The ANOVA results on table 3 indicate that the regression model is significant and a good predictor of the relationship between the research variables as indicated by P value of 0.034 which was less than 0.05. The F value indicates whether the set of independent variables as a whole contribute to the variance in the dependent variable. An F value of 2.949 was found. Findings in Table 3 further show that the F value was significant (p=0.034) at 95%. This means that the independent variable were significant in predicting the effectiveness of IFMIS in the County Governments in Kenya.

III. Regression Analysis
Regression analysis was conducted to determine the relationship between technical factors and the effectiveness of IFMISin county governments in Kenya, and findings presented in table 4 below.

Table 5: RegressioEn Coefficients-Technical Factors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.547	0.651		2.376	0.006
Technical Factors	0.041	0.226	0.028	0.181	0.047

a. Dependent Variable: Effectiveness of IFMIS

Technical factors had a positive relationship with effectiveness of the Integrated Financial Management Information Systems as shown by the values Coeff/beta =0.041, P-value= 0.047. P-value (sig) of 0.047 was less than 0.05, which was an indication that the effect of this variable was significant. This means that an improvement of technical factors by 1 (one) unit scale leads to an improvement in the effectiveness of IFMIS by 0.041units.

After the analysis of variables, the study regression model was as follows;

$Y = 1.547 + 0.041X_1$

It was thus established that taking all the factors into account, to a constant zero, effectiveness of IFMIS would be 1.547. Findings also revealed that taking all the variables to a constant zero, a unit increase in technical factors would increase the effectiveness of IFMIS by 0.041respectively.

IV: Discussion of Findings

Findings indicated that technical factors had a positive relationship with effectiveness of the Integrated Financial Management Information Systems. Technical factors such as ensuring that the IFMIS system is user friendly and compatible with office software, and having reliable internet in offices to support the use and effectiveness of IFMIS affected the effectiveness of IFMIS in the county governments.

These results were consistent with those of Kwena (2013) who in his study of Kenya's ministries found that the technical know-how was a huge impediment to the effectiveness if IFMIS system. The recommendation was that users of the system needed to undergo on-the-job technical training in order to improve their skills and capacity to use the system.

VII. Conclusion

The study aimed at investigating technical factors as a determinant effectiveness of integrated financial management information systems in the county governments of Kenya. Findings from the analysis revealed that technical factors had a positive and significant effect on the effectiveness of IFMIS in the county governments in Kenya.The study concluded that technical factors were a determinant in the effectiveness of integrated financial management information systems in the county governments of Kenya. Aspects such as ensuring that the IFMIS system was user friendly and compatible with office software, and having reliable internet in offices to support the use and effectiveness of IFMIS were determinants of the effectiveness of IFMIS in the county governments in Kenya.

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