Does Privacy Have Any Impact on Self-Disclosure? A Systematic Review of Relevant Studies

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Integrated Financial Management Information System and budgetary control nexus: an empirical analysis of the 47 Kenya's county governments

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Abstract:

Integrated Financial Management Information System (IFMIS) implementation by government and public sectors always intended to promote efficiency, enhance accountability and transparency in the public finance management. However, despite it wide adoption in most public institution and entities globally where the system has been implemented, significant challenges still persist ranging from poor expenditure tracking, budgeting control and lack of fiscal discipline. Therefore, this study examined the role of integrated financial management information system in budgetary control among the 47 counties in Kenya. Secondary panel data for 47 counties sourced from financial report and audited statements between 2015 and 2022 was collected for analysis. . The collected data was analyzed using correlation analysis technique and fixed effect regression analysis to ascertain the nature and the relationship between dependent and independent variables. The study established a positive and significant relationship between cash management, pending bills accumulation and public policy implementation and budgetary variance. On the other hand a negative and significant relationship between internal control systems development and budgetary control established meaning the system development reduces budgetary variances. Based on these findings, the study recommends implementation of IFMIS in the public sector's financial management through monitoring cash management, pending bills accumulation and public policy implementation in the counties to control greater budget variation. Second the study recommends increase in internal control mechanism in order to control budget variation and practice sound fiscal discipline. Unlike prior studies along this line which have focused on the theoretical benefits of IFMIS implementation, the current study disaggregates its components into internal control, cash management, pending bills management and public policy implementation and quantified their individual effect on budgetary allocation which helps policy makers to identify which specific of the system to enhance or control, this forms the novelty of the current study.

Keywords: Integrated Financial Management Information System; Fixed effect Model; County governments; public sector performance

Introduction

Public finance management plays a critical role in the governance of public institutions by ensuring effective and efficient allocation of resources as well as the utilization (Rijal, 2023). To achieve this goal, the Integrated Financial Management Information System (IFMIS) has been implemented by numerous world countries as a computerized system designed to promote accountability, transparency and efficiency in managing public financial resources (Purnamasari et al. 2024). Internationally, IFMIS has been implemented across developing and developed countries as an essential tool for enhancing fiscal discipline. For instance countries such as Chile. United States of America and South Korea have effectively implemented the system into managing essential financial processes such as procurement, accounting, budgeting and financial reporting which have significantly improved financial management and played a key role in mitigation financial wastage (Ebhota et al.2024). Among developing especially in Africa, countries such Ghana, Tanzania, Rwanda, and Nigeria among other have also followed the suit by integrating IFMIS into their public financial management. For instance Rwanda has implemented a smart IFMIS in the government financial planning, reporting and project implementation which has seen the country make significant strides in terms of development especially its road networks and among other infrastructure projects. In Tanzania, Malawi and Liberia, the system has been implemented as a tool for promoting financial accountability and transparency in financial reporting aiming at reducing resource wastage which is rampant manual operations (Matsoso et al. 2021).

In Kenya due to devolution, public finance management through budgetary control has come out to a very fundamental component in promoting service delivery while maintaining fiscal discipline (Iravonga et al., 2023). Although fiscal discipline is essential for effective service delivery, most of Kenyan counties continues to struggle with budgeting and budgetary control often leading to increased pending obligations, financial mismanagement, and stale development projects among other inefficiencies (Barngetuny, 2024). To address these challenges, the Kenyan government has introduced the Integrated Financial Management Information System (IFMIS) which facilitates and monitors all financial transactions in public sector entities (Panyako & Miroga, 2024).

The IFMIS was introduced by the Kenyan government with a chief aim of streamlining the management of financial resources and processes in the public sectors. The system integrates various financial functions such as cash management, budgeting and accounting as well as financial reporting, all aim at improving financial discipline and also provide real time data to enable proper decision making (Awino, 2018). Although the IFMIS system has been operational in Kenya for over two decades since 2003, its implementation including budgetary control issues continues to persist at both national and national government levels rising concerns on the effectiveness of this system in achieving the desired objective. For instance, weak internal controls, cash mismanagement, inconsistencies in public policy implementation and accumulation of pending bills continues to be a bother in the financial management often crippling county government operations (Majani et al., 2022).

As such, this study sought to investigate the nexus between IFMIS implementation and budgetary control among 47 Kenyan counties focusing on how counties' internal system controls, cash management, public policies implementation and accumulation of pending bills, influence budgetary management. This study has been motivated by the fact that most of available studies in this area have focused on IFMIS and public finance management at national level although considering various aspects of public finance management (see Majer & Makuac, 2023; Biwott, 2015; Kiilu, 2018). Limited research has been conducted on how this system implementation influence budgetary control among 47 Kenyan devolved units. Similarly, previous studies along this line have highlighted

lack of technical capacity in some public institutions, resistance to change and non-willingness by public officers to adhere to IFMIS requirements in financial management as main challenges hindering its effectiveness (Tefera & Otieno, 2024). Additionally, previous studies have not provided a clear link between the IFMIS implementation and the key budgetary control tools such as internal control systems, cash management, public policy implementation and pending bills management which forms the basis of the current study.

Budgetary Control and IFMIS implementation

The internal control systems is an institutional deliberate action to put in place checks and balances to ensure compliance, financial regulation, accountability and fraud preventions. An effective internal control system enhances financial management through minimization of irregularities and promote transparencies in managing public funds (Majaniet al., 2022). To promote internal controls, IFMIS has been integrated in public sector financial management to strength internal controls through minimizing manual transactions which are easily manipulated, providing timely financial reporting and ensure automated audit trail all aimed at enhancing financial management (Iravonga, 2023). However the major challenge in IFMIS implementation and its ability to strengthen the internal controls in the public sector remains non-compliance and weak oversight authorities (Tefera & Otieno, 2024). Similarly, the cash management in the public sector remains a critical aspect of financial management and a sign of budgetary control. Cash management ensures availability of funds to cater to the public sector expenditure when they fall due while minimizing idle cash at disposal as it is prone to embezzlement and mismanagement (Njeru, 2017). The integration of IFMIS in the management of cash in the public sectors is expected to automate payments, track real time revenue collection and improve liquidity management and enhance service delivery. However in most cases this has not been the culture as some public sector entities continues experience delays in funds disbursement, cash

flow constrains, misallocation of funds and manual payments for goods and services which negatively influence the budgetary control (Majer & Makuac, 2023).

Accumulation of pending financial obligations (bills) is also a major financial challenge faced by the public sectors worldwide. In Kenya, pending bills arising from delayed payment of service providers, employees, contractors and suppliers have often resulted into financial distress and delayed service delivery often attracting industrial actions such strikes and go slow in the public sectors (Barngetuny, 2024). The integration of IFMIS in financial operation in the public sectors was expected to address the pending bills problem through enforcing the public expenditure control, enhancement of budget credibility and promote prompt and timely settling of financial obligations . All these aimed at effective budget control and financial management. To add on, public policy implementation is another key determinant of effective budgetary control in the public sectors across nations (Wakhaya et al., 2024). For instance policies relating to the management and control of procurement processes, financial management, revenue collections and expenditure control play a critical role in promoting fiscal discipline and budgetary control (Kiilu, 2018). The implementation of IFMIS was expected to support the public policy implementation through availing of accurate and timely financial data, enhance compliance and proper decision making while improving service delivery. However this has often not been the case as the system implementation has continued to face huddles emanating from resistance to policy changes by the implementers, inadequate technical capacity including staffs to implement and political interference (Njeru, 2017).

Generally, the implementation of IFMIS in the public sector financial management especially at county government level in Kenya was envisioned to transform the financial management through proper budgetary control. However, this is yet to be realized due to persistent budgetary control challenges relating to internal control systems, cash flow management, pending bills accumulation and poor public policies

implementation. This study therefore sought to fill the existing knowledge gap on how IFMIS implementation influence the budgetary control among the 47 Kenya devolved units by providing the following unique contributions. First it provides an analysis of IFMIS integration in the decentralized context focusing on all 47 Kenyan Counties which captures diverse administration and financial dynamics that have not been extensively explored by the global literature. Second, the current study bridge the gap between financial discipline and technology adoption through offering insight on the interaction between IFMIS implementation and budgetary control. This offers knowledge on how technological development is essential in promoting financial management. Lastly a this study employed descriptive analysis of employees' perception on the role of IFMIS implementation on budgetary control and fixed effect model to analyze secondary data collected which offers evidence based insight on the role IFMIS integration on financial management as well as it perceived effect.

Literature reviews

The current study explored both theoretical and empirical literature in explaining the nexus between IFMIS integration and budgetary control among the Kenya's devolved government units. The contingency theory and innovation diffusion theory were the main theories explored to explain explain how Integrated Financial Management Systems influence budgetary control.

Contingency theory

This theory was first put forward by Macintosh (1981), as an advancement of the substitute theories that have been developed for the purpose of accounting information system.The theory underscores the role of information technology in large firms' innovation, data development, financial management and decision making. It therefore offers valuable insights aligning the Integrated Financial Management Information Systems (IFMIS) and the crucial function of budgetary control within governmental entities like county governments in Kenya (Masaku et al., 2018). The contingency theory further posits that there is no one-size-fits-all approach to management, instead the effectiveness of management systems, such as IFMIS, is contingent upon various contextual factors among them the level of integration such county or national government (Muriithi & Wamiori, 2020).

The relevance of the contingent theory in this study lies in its ability to provide a framework to help understand how information technology advancement through IFMIS integration helps in budgetary control at the county level which is the main objective of the study. Therefore, by considering the various levels of IFMIS integration and their influence on the budgetary control, this study will serve as a source policy decision regarding the adoption and implementation of financial management systems at the county level in Kenyan context.

Innovation Diffusion Theory

Developed by Everett Rogers 1985, innovation diffusion theory is among the earliest theory to explains how new ideas and innovations spread, and how they are adopted by individuals and organizations. The theory underscores the role of decision-making structures, political influences, and social norms in either facilitating or hindering the adoption of innovation in resource management. In this context the innovation diffusion theory offers valuable insights into the process of introducing and implementing IFMS within county governments and how it is used in the management of financial resources mainly through budgetary control. It also helps in understanding how the adoption of IFMS is influenced by various factors, including the characteristics of the innovation itself, the communication channels used, and the social systems in place. For instance, the characteristics of IFMS, such as its relative advantage in improving budgetary control, compatibility with existing processes, complexity, and observability of benefits, can affect its rate of adoption (Iravonga et al., 2023).

Therefore, understanding the role of these factors can serve as a source of insight as to why IFMS implementation through pending bills management and public policy implementation vary greatly from one level of integration to another (Mong'are, 2020). This theory is therefore relevant in this study as it provides insight on the role of social dynamics successful integration of IFMS into the budgetary control processes in Kenya as well as explaining why counties have varying level of the system integration.

Empirical literature review and hypotheses development

In this section, the study provides a summary of previous studies in the context of IFMIS implementation and budgetary control. To begin with, Purnamasari et al. (2024) investigated the nexus between the information system implementation, internal control, village accountability performance and sustainable development in Indonesia and revealed a positive correlation between internal control, application of information system and village performance. The study utilized data collected from a small of 159 respondents from 53 villages with three participants each who included village elder, trained researcher and other relevant stakeholders. The correlation and regression analysis techniques were used in analyzing the collected data. In the correlation analysis, a hypothesis testing of correlation coefficient being equals to zero was test against the alternative hypothesis of not equals to zero at 0.05 level of significance ($H_0: \rho = 0$ against $H_1: \rho \neq 0$). In the regression analysis, the formula involves checking whether the coefficients of independent variables are different from zero.

To add on, Ebhota et al. (2024) studied the influence of budgeting, budgeting control and digital transformation on the financial performance South-West Nigerian SMEs focusing in the transformative role of digital digitalization, customer experience, big data analysis and budget control on management of finances in SMEs. The research analyzed data from 825 SMEs using Partial Least Squares (PLS) model and found out

that digital transformation significantly influence big data analysis, customer experience and budgetary control among the South West Nigerian SMEs. The study emphasized on the role of digital transformation on big data utilization and analysis which reciprocally leads to improvement in the budgetary control process.

Lovita, et al (2023) studied the Cash Budget management as an internal control tool in the Cash Financial Management and found out that internal cash control plays a critical role in enhancing effectiveness and efficiency in planning and reporting activities and cash administration to help mitigating excess financing and wasteful spending. The study employed a case analysis of the Pandeglang Regency Government following changes in the central government funds transfers and distribution system. Qualitative as well as comparative research methods were employed in analyzing certain cases, groups and situations, where cash management was analyzed through comparing the after and before the cash budget system implementation as an internal control in Pandeglang.

Furthermore Matsoso et al. (2021) examined the role of budgeting and budgetary control in the management of SMEs in developing countries is a case study of South Africa and revealed a positive impact of budgeting and budgeting control on the management of small and medium sized enterprises. Relying on the goal setting theory, this study utilized questionnaires to collect data from 175 MSEs located in Cape Town South Africa which was analyzed through descriptive techniques where mean, mode, standard deviation and frequencies were presented.

Locally, a number of studies have also been undertaken on this subject which have yield varying results. For example, Shisamba et al (2019), examined the effect of IFMIS budget plan model on the cash management in Uasin Gishu County Government in Kenya and found out significant relationship between IFMIS budget plan model and the cash management in the county. The study was developed based on the system theory with a

sample of 177 employees from the IFMIS sector of the county being used for data collection following a stratified sampling data collection technique. Questionnaires were administered in the data collection and the research instruments validity tested using KaiserMeyer-Olkin (KMO) and Bartlett's techniques at test score above 0.5 and probability value less than 0.05. A multiple regression as well as the correlation analysis were employed in the inferential analysis which revealed that 12.9% variation in cash management stem from the adjustment of IFMIS implementation the county.

Bandiyono (2020) studied the role of budget participation and internal control in providing quality and better financial statements in schools within Tangerang City. This study utilized questionnaire through survey in the data collection where principals, vice principal, teachers and school committee members were target population. A quantitative research method was employed in the study which revealed a positive significant relationship between budget participation and the quality of report while inter internal control as a moderating variable had just enough influence on budget participation.

Panyako and Miroga (2024) studied budgeting process and financial performance in Tranzoia County in Kenya revealed a moderate positive relationship between budget control, budget monitoring, auditing, budget evaluation and financial performance. This study was built on the Agency Theory and utilized primary data collected through administration of questionnaires from senor and middle level employees drawn from trade and commerce department, finance and economic planning and public serve management and governance of the county. The correlation and regression analysis were employed as the main analytical techniques to examine the relationship between dependent and independent variables in this study.

Magani, and Gichure (2018) studied the the role of public financial management reforms on implementation fiscal budget city counties in Kenyan namely Nairobi, Mombasa and Kisumu counties. It its analysis this study revealed a strong positive correlation between fiscal decentralization and budget implementation and a negative relationship between IFMIS re-engineering and budget implementation. The study was built on the resource based theory, modern portfolio theory and the stakeholder theory with expost-facto descriptive research which used survey to determine the relationship between the study variables. The data for this study was both primary and secondary data collected from the officers within counties' budge an IFMIS department as well as annual county budget implementation reports.

Based on the theoretical and empirical literature reviewed, following null hypotheses were developed.

H_{01}: IFMIS integration through cash management does not influence budgetary control within Kenyan county governments

H_{02}: Increase in internal controls do not have effect budgetary control among Kenyan county governments

H_{03}: Pending bills management does not influence effective budgetary control among Kenyan county governments

H_{04}: Public policy implementation does not affect budgetary control among Kenyan county governments

Methodology

Sample selection and data source

The secondary data utilized in this study was collected for 8 years from 47 counties. County audit reports, annual budget reports and county progress reports between 2015 and 2022 were the main source of data based on variable measurements provided in Table 1. The 47 Kenyan county governments were the target population for this study where the census method of data collection was employed since for purpose of capturing the entire population characteristics (Starnes et al., 2021).

Operationalization of variables and model specification

This study's selected budgetary control as the dependent variable while IFMIS management tools (proxies were cash management, internal control systems, pending bills management and public policy implementation) represented the independent variables of the study. A cause effect research design was utilized in this study which helps in predicting the relationship between the selected dependent and independent variables. A pretest test was first conducted to ensure the data collected through questionnaires is reliable and valid. The questionnaires' reliability was determined by the Cronbach Alpha coefficient which provide for threshold value of 0.8 for acceptability of internal consistency of the data collection tools (Kaitelidou et al., 2019).

For purpose of inferential statistics secondary panel data was collected for the period between 2015 and 2022 and analyzed through correlation and multiple regression analysis estimated through a fixed effects model to determine how IFMIS adoption at the county level influence the budgetary control. The model estimated assuming a linear multiple regression model form.

In particular, the fixed effects model was selected for his study because it has ability to control unobservable time-variant effects that could otherwise lead to biased results in case of other econometric models such Ordinary Least Square (OLS) model or pooled OLS model. The fixed effects model allows each cross-section unit in this case county to have its own intercept to avoid interference in case the variables under consideration change over time (Bai, 2009).

The fixed effects model estimated in this model took the following form

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon_{it} \qquad 1$$

Where Y denotes budgetary control, X_{1it} represents cash management, X_{2it} represents internal control systems, X_{3it} represents pending bills management, X_{4it} represents public policy implementation while ε_{it} is the error term. β_0 represents the constant β_1, β_2, β_3 and β_4 represents the coefficient parameters to be estimated in the multiple regression model. The subscript i and t on the variables denote the cross-sectional unit (county) and time varying component ranging between 2015 and 2022.

Prior to analysis, this study conducted three main diagnostic test as normality, multicollinearity and Hausman test for validation of the selected model which helped in checking whether the collected data is suitable for regression analysis (González-Estrada & Cosmes, 2019). The normality test was conducted using the Shapiro-Wilk test at 95% confidence level while the test for nulticollinearity was checked against 0.2 tolerance value which was the threshold minimum value (Alita et al., 2021). The study's dependent and independent variables were measured as presented in Table 1.

Table 1. Operationalization of variables

Variable	Type of Variable	Measurement
Budgetary Control	Dependent	• Annual budget variance
Cash Management	Independent	• Annual change in cash ratio (total cash and cash equivalent/current liabilities)
Internal Control systems	Independent	• Annual budgetary allocation for upgrading internal system as percentage of total budget
Pending Bills	Independent	• Total annual outstanding obligations/pending bills as a percentage of total budget
Public Policy Implementation	Moderating	• Number of projects completed verses planned

Results and discussions

Descriptive statistics

The data collected was unbalanced panel secondary data from 47 counties spanning 2015 to 2022 capturing the financial expenditures of county governments and their effect on budgetary control. Descriptive statistics were generated to summarize the distribution of variables as presented in Table 2

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Internal control	372	3.034	0.751	2.110	6.000
pending bills	366	12.041	7.514	1.242	34.153
Cash Management	376	3.255	2.107	1.451	7.265
Public policy	376	9.363	4.234	3.000	18.000
Budgetary Control	376	8.805	1.483	3.221	20.750

From this analysis it can be noted that internal control, cash management and budgetary control have relatively low variability with a standard deviation of 0.751, 1.2.107 and 1.483 respectively, with the average of 3.034, 3.255 and 8.805. The values are clustered around the respective means implying consistent in budget allocation on internal control, cash management and variation in county annual budgets. On the other hand, pending bills and public policy show high variability, with mean of 12.041 and 9.363 and large standard deviations as 7,514 and 4.234 respectively. This implies a significant variation in pending bills management and public policy implementation which have made more projects to remain unfinished in most countries. This can be attributed to weak budgetary controls often leading to over expenditures and funds mismanagement as well delayed disbursement of the approved budget which continue to create a recurrent block of unpaid obligations (Iravonga, 2023).

Correlation Analysis

The strength of association between the study variables (correlation) was tested using the Pearson's correlation test and the results presented as in Table 3. The correlation analysis relevant before conduction a multiple regression analysis since it helps in detecting multicollinearity problem which ensures that independent variables used in the model do not influence the test power of one another which is the case where correlation coefficient is high. It also ensure independent variables have meaningful relationship with the dependent variables for proper modeling (Akoglu, 2018).

Table 3 Pearson Correlation

	Internal control	pending bills	Cash Management	Public policy	Budgetary Control
Internal control	1.0000				
pending bills	0.367**	1.0000			
Cash Management	0.520***	0.128**	1.0000		
Public policy	0.050**	0.428***	0.228**	1.0000	
Budgetary Control	0.229**	-0.260**	0.170**	0.204*	1.0000

Where ** and *** denote significance level at 5% and 1% confidence levels

Results presented in Table 3 shows that all variables are positively correlated with each other. This suggests that as expenditures in one area increase, expenditures in one area tend to increase the expenditure in other areas as well as with better budgetary control. All correlation findings shows that the all correlations are statistically significant ($p < 0.05$), meaning these relationships are unlikely to be due to random chances. Similarly, the highest correlation coefficient is between cash management and internal control at 0.520 which means that the study variables are not strongly correlated and hence can be used in a linear multiple regression analysis without affecting the test power of one another (Akoglu, 2018).

Diagnostic tests

Normality, multicollinearity and Hausman test for suitability of the fixed effect model were were the main diagnostic tests conducted to ascertain the suitability of the collected data to be analyzed using the ordinary least squares method in a multiple regression model (Bhuiyan & Zhang, 2023). The Shapiro-Wilk test was used to assess normality of the dependent variable which gave the following results as presented in Table 4. From this table the Shapiro-Wilk test p-value is 0.097 which greater than 0.05 implying that the dependent variables is normally distributed hence satisfying the OLS assumption of the error term distribution (Burton,2021).. This is further supported by the normal Predicted Probability (P-P) plot presented in Figure 1.

Table 4. Normality test results

Variable	Obs	W	V	Z	Prob>z
budgetary_~l	376	0.94902	1.859	1.297	0.08739

Figure 1 Normal Predicted Probability (P-P) plot
Dependent variable –budgetary allocation
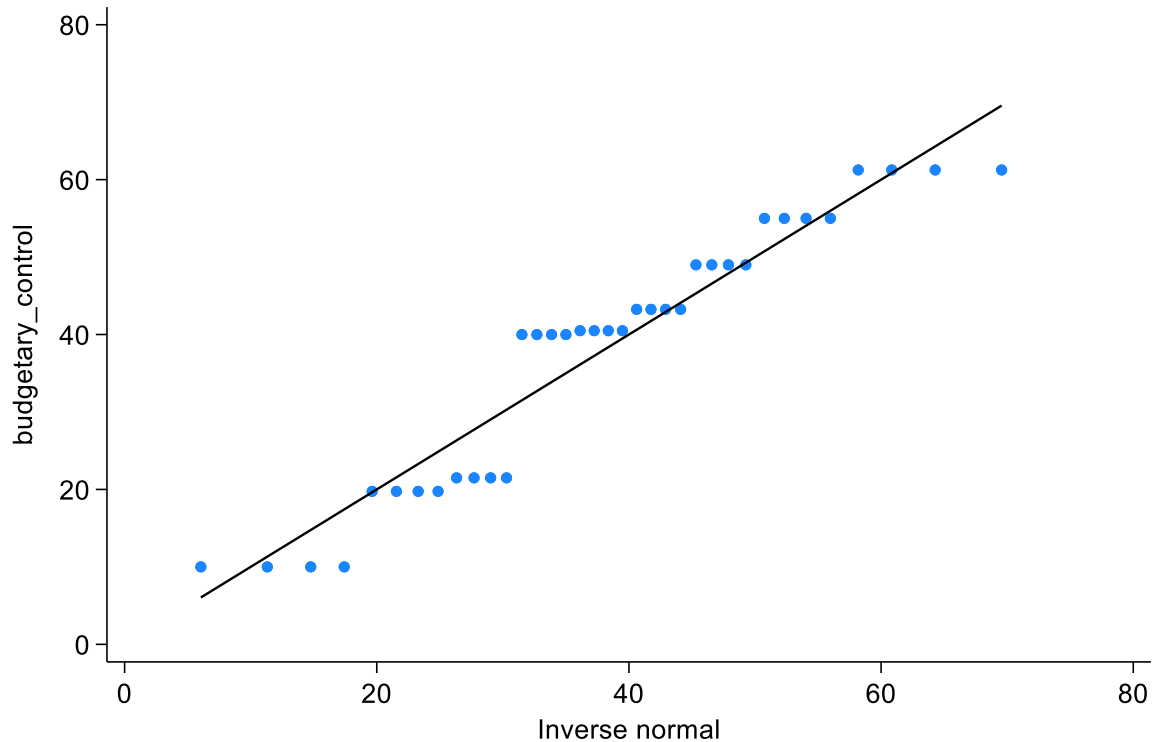
From this figure it can be noted that the distribution of dependent variables errors follows a normal path with observations falling on either sized of normal Predicted Probability (P-P) curve. This is an additional test on top of Shapiro-Wilk test corrected overreliance on the p-value test which can be misleading especially when it significant at some other levels of significance say 10% (A'aqoulah et al., 2024).

The absence of muticollinearity is essential assumption for the multiple linear regression model. As such, the variance inflation factor (VIF) was employed to test for muticollinearity among the study variables and the results presented as in Table 5.

Table 5. Multicollinearity test

Variables	Tolerance	VIF
Internal control	0.847	1.182
pending bills	0.924	1.092
Cash Management	0.832	1.231
Public policy	0.837	1.192
Budgetary Control	0.954	1.036

From table 5 it can be noted that all the tolerance values are more than 0.1 and the VIF index is below the threshold level of 10 provided by Kalnins and Praitis Hill (2025) meaning the multicollinearity problem is not severe among the independent variables. This gave way for the estimation of a linear multiple regression model.

The Hausman test was used to assess whether the fixed effect model was preferred to the random effect model. The decision is made based on the p-value of the Hausman test chi-square value which sought to reject null hypothesis of Fixed Effect model not appropriate at a 5% level

of significance. From Table 6, the p-values of Hausman test for suitability of the fixed effect model is justified by all significant p-values at a 5% level of significance hence selected as the suitable model.

Table 6: Hausman test for selection of Fixed Effects Model

Dependent variable	Chi-squares	p-value	Decision	Conclusion
Budgetary control	8.001	0.009	Reject H_0	The fixed effect model is appropriate.

Regression results and discussion

A multiple regression model was estimated through a fixed effects technique using STATA software version 15 to assess the effect of the selected independent variables on budgetary control. The fit of the direct effects model involving implementation of IFMIS and budgetary control was tested from two perspectives. First, the variation in budgetary control explained by variation in IFMIS practices was assessed. Following this, the study checked whether manipulation of the four IFMIS practices could predict budgetary control. The estimation technique involved the analysis of variance (ANOVA) presented in Table 7 shows a significance association between budgetary control and IFMIS implementation (F= 6.81, p< 0.05). This means that budgetary control among Kenyan counties is greatly influenced by the internal control systems, cash management, pending bills and public policy implementation.

Table 7. Model summary for regression analysis

Source	SS	Df	MS	F (4, 357)	Prob > F
Model	667.023.	4	247.166.755	6.81	0.000
Residual	8736.893	357	24.473		
Total	9403.917	361	26.049		

The coefficients of these variables are as presented in Table 8 which reveal that all independent variables are significant at 5% level of significance. In particular, the coefficient of cash management is positive ($\beta = 0.207, p < 0.05$) implying that a unit increase in the cash management/ratio increases budget control by 0.207 units holding all other factors constant. This means that availability increase in cash current liability ration increases the variation in financial budget over time. This is expected because as liquidity increases, county managers tend to spend more, often times on unbudgeted projects leading to misallocation and embezzlement of funds hence a greater variation in the budget. High cash ratio also implies misalignment between cash management and budget utilization through understating of revenue which promote inefficiencies in the counties (Barngetuny, 2024). The findings of this study are consistent with previous studies such as Chumba (2014), Obeli (2016) and Bosire (2016) who also revealed a positive and significant relationship between cash management and budgetary variation in the public sector.

Table 8. Regression Analysis Summary Table

	Coefficient	Std. error.	t	P>t
Cash management	0.207	0.077	2.68	0.008
Internal control	-0.062	0.019	-3.11	0.002
Pending bills	0.070	0.026	2.64	0.009
Public policy	0.277	0.108	2.55	0.011

Intercept	4.303	0.855	5.03	0.000

Similarly, this study found that increase in the pending bills amount increases budgetary variation ($\beta = 0.07, p < 0.05$). Meaning that unit increase in pending bills results into an increase in budgetary control among the Kenyan counties by 0.07 units holding other factors constant. This is expected because high pending bills often attract penalties and accumulates liabilities which increase future budgetary allocation to cater for these liabilities. This results to a greater budgetary variation over a given financial year as suggested (Mutungi, 2017). These findings are also supported by previous studies by Muiruri (2018) who found a positive relationship between pending bills accumulation and budgetary allocation. On the other hand, the results of the current study contradicts those of Langat (2016) and Shisamba et al (2019), who also revealed that pending bills management reduces budgetary variation.

This study further reveals that public policy implementation has a positive and significant impact on the budgetary control (β = 0.277, p<0.05) implying a unit increase public policy implementation (number of projects completed verses planned) increases the budgetary variance by 0.277 units holding all other factors constant. The public policy implementation has a relatively higher positive coefficient implying a greater effect on the budgetary variance (control). This is because, as counties finish one project they tend to start other new projects which often require large amount of capital hence greater variation in the budgetary financial budget between years (Njeru,2016; Kiluu, 2018) in the respective studies.

On the other hand, this study found out that increase in internal control systems have a reducing effect on budgetary control as implied by a negative coefficient (β = -0.062, p<0.05). This means that a unit increase in the budgetary allocation for internal control reduces the annual budget variance (budgetary control) by 0.062 units holding other factors constant. This is expected since increase in level of internal control introduces checks and balances which makes county managers to be accountable for their budgets since spending is monitored. Internal controls also increase accuracy in budgeting hence reducing the variation in the budget between years (Purnamasari et al., 2024). The finding of this study is consistent with those of Ahmed and Nganga (2019) and Odek and Okoth (2019) who also established a negative relationship between internal control and budgetary control in the public sector. From the findings of the regression model it can be seen that predictors of budgetary control are Cash management (positive), pending bills (positive), public policy (positive) and internal control increase (negative).

Conclusion and policy recommendation

The current study sought to establish the influence integrated financial management information systems on budgetary control in the County Governments of Kenya between 2015 and 2022. The study employed secondary panel data for in its analysis applying the fixed effect model as the main econometric model. IFMIS implementation in this study was measured in terms of cash management (change in annual cash ratio), public policy implementation (number of projects completed verses planned within any financial year), pending bills accumulation and increase in internal control formed the study independent variables. The dependent variables of this study was budgetary control measured as annual budget variation.

The findings of this study reveal that increase in cash management, public policy implementation and pending bills accumulation increases budgetary variance while increase in the internal controls system reduces budgetary variation among Kenyan counties. Following these findings the following policy reconditions are suggested. That county should monitor cash management strategies, pending bills accumulation and implementation of public policies since these variables have been found to have a rising effect on the budget variance. This will ensure low budget variation, sound fiscal discipline and proper management of resources at county levels. Second, that counties should capitalize on strengthening

internal control systems. This ensures accountability among country officials and increase accuracies during budgeting which promote proper resource utilization. Internal controls systems will also control revenue losses promoting efficient service delivery at Kenya's devolved units (Mutungi, 2017).

The current study analyzed the role of IFMIS implementation through cash management, internal control, pending bills management and public policy implementation of budgetary control among Kenya's county government. This may limit the generalization of the study findings to other government entities or even at national level. Future studies in this areas can therefore analyze the effectiveness of IFMIS implementation in national government and other government institutions such municipalities or parastatals to see whether similar impacts are observed in regard to budgetary control.

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