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Management Accounting Practices, Business Environmental Uncertainty, and Financial Performance of Commercial Banks in Kenya

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Abstract

The study investigated the moderating effect of business environmental uncertainty and relationship between management accounting practices and financial performance of commercial banks-Kenya. It assessed direct relationship between costing, budgeting and performance evaluation system and financial performance. Secondly, study examined moderating effect of business environmental uncertainty on relationship between management accounting practices and financial performance of commercial in Kenya. Population comprised of 1290 employees in finance and accounting departments in 42 commercial banks. Questionnaire was utilized on 305 respondents. Descriptive statistics, Pearson correlation, and hierarchical regression analyses were preferred. The study found a positive and significant relationship between costing systems (β=3.012, p=.003), performance evaluation systems (β=4.089, p=.000) and financial performance. On the contrary, there was a positive (β = .480) but insignificant (p=.632) relationship between budgeting system and performance. Furthermore, business environmental uncertainty had a positive significant moderating effect on the nexus between costing system (β=4.000, p=.000), budgeting system (β=2.667, p=.019) and performance evaluation system (β=6.250, p=.000) and financial performance. On costing system, the study concluded that banks had measures for efficient cost control, maintained standard costing, and adhered to activities focused costings. Concerning budgeting systems, it concluded that banks insisted on final budget authorization, adherence to budget procedures and regular budget evaluation and monitoring. Regarding performance evaluation system, the research concluded that banks had benchmarks for financial performance evaluation and insisted on provision of quality work. The study recommends that banks should ensure that costing systems are regularly reviewed and updated to reflect evolving market conditions. The study recommended that banks should implement performance-based budgeting to promote fund distributions according to products' performance. The study recommended that banks ought to connect training and skill-building initiatives to performance evaluation indicators to improve bank's performance.

Key words: *Costing systems, Performance Evaluation Systems, Financial Performance, Budgeting System and Management Accounting Practices*

1.1 Introduction

Commercial banks operate in a volatile business environment (Zhou, Xu, Chai, Yao, Wang, & Lev, 2019). They can enhance their performance by comprehending external factors like competitors' actions, public opinion, product and service offerings, marketing strategies, consumer preferences, and public relations intermediaries. Many firms operate in unpredictable conditions, with management having no idea precisely what will happen to their company the next day (Ashraf & Shen, 2019). The same ideas apply to the banking industry, where the management of most commercial banks sets financial performance goals at the start of the year without understanding how the business will change as the year goes on (Dung & Hoang, 2021). According to Xing et al. (2022), the financial performance of banks affected by many internal elements. One of which is the Management Accounting Practices (MAPs). Generally, MAPs are distinguished by distinct procedures that need to be understood to properly develop a managerial accounting plan (Jariya & Haleem, 2021). The MAPs role necessitates recognition, evaluation, and addition, examination and translation, as well as efficient advice delivery (Alabdullah, 2019). Therefore, a business can achieve ongoing performance and progress by implementing management accounting (MA) techniques and methodologies (Alvarez, et al., 2021). The goal of these MAPs is often to increase company performance. In contrast to multinational corporations, firms have been sluggish to adopt MA methods, despite the acknowledged significance of these practices for performance.

Internationally, for instance, the field of management accounting practice in Europe is moving toward a global MAPs model, especially in terms of the use of methodologies (Latif, Mahmood, Tze San, Mohd Said, & Bakhsh, 2020). Specifically, according to Chand and Sharma (2021), 31% of management accounting systems in Canada had undergone changes in the preceding three years. They discovered that even with their drawbacks, traditional budgets, cost analysis, and Cost-volume-profit (CVP) analysis continued to be key components of MAPs and were utilized 84% to 73% of the time for planning and cost control in businesses. In Asia, Mehta and Bhojwani (2020) indicate how Indian corporations adopted standard costing, accounting for overhead, and budgeting as MA decision-making tools. They showed that Indian companies employed both contemporary and old MA techniques to inform decisions at different management levels. Further, in Saudi, adopting MAPs beneficially influenced entities' performance, as shown by Haya (2019). In fact, according to Alroqy (2020), several Saudi firms have embraced using MAPs such as costing system, analyzing operational data, ABC, and budgeting systems. However, there is need for a localized study with a focus on Kenyan commercial banks.

In Nigeria, Ogungbade and Oyerogba (2020) opine that some organizational cultures do not welcome the adoption and use of new MAPs including performance evaluation system, costing system, target costing, and ABC. This means that most firms ignore using contemporary MAPs and this could have detrimental effect on the overall performance. However, those that embrace using MAPs have been found to demonstrate exemplary accounting standards. Further, in Tanzania, Yolla (2018) revealed that budgetary systems (e.g. controls, management, and planning) have been by several firms. It is clear that African countries have widely embraced various MAPs with the aim of improving performance. In Kenya, the financial industry has experienced significant upheavals, leading to the failure of Imperial bank, Chase bank, and Dubai bank. All of these have occurred because of new regulatory frameworks and a changing competitive environment. What is concerning, though, is the erratic financial performance of banking institutions. For instance, from Ksh. 240.4 billion in 2022 to Ksh. 219.2 billion in 2023, sector's profit before taxes fell by 8.8%. A bigger rise in total expenses (Ksh. 175.3 billion) than in total

income (Ksh. 154.1 billion) was the reason given for the decline in profitability (Central Bank Supervision Annual Report, [CBK, 2023]). Higher rises in interest expenditure (41.3 %), other expenses (22.8 %), salaries and wages (19.8 %), and bad debt charge (16.1 %) were the primary causes of a spike in total expenses (CBK, 2023).

1.2 Statement of Problem

Despite their immense contributions to the economic growth, there has been erratic commercial banks' financial performance between from 2019 to date. For instance, the financial performance (ROA) for KCB from 2019-2020 was (5.18%-3.12%), Equity Bank from 2019-2020 (2.9%-2.6%), DTB Bank from 2019-2020 (4.94%-3.64%), Sidian Bank from 3.21% in 2019 to 0.30% in 2020, Jamii Bora bank 1.52% to 3.10% in 2020, and Paramount Universal Bank from 1.24% to 1.11% in 2020 (CBK, 2020). According to CBK Supervision Annual Report, (2023), the commercial banks' PBT (ROA) dropped by 8.8% from Ksh. 240.4 billion in 2022 to Ksh. 219.2 in 2023. The decreased performance of commercial banks worries those involved in the economy hence the current study proposes MAPs adoption as the solution.

Rui Pires and Alves (2022) examined the association between environmental uncertainty, accounting information relevance, and organizational performance and found that in contexts of environmental uncertainty, financial information relevance continues to outstrip that of non-financial information. However, the study did not use MAPs as independent variable hence a conceptual research gap. Further, Amara and Benelifa (2017) studied the impact of external and internal factors on MAPs in Tunisia and found that sophistication in MAPs significantly depend on internal and external environmental factors but it was done in a different context hence a contextual research gap. In Rwanda, Karemera (2013) found that regulation influences the profitability of commercial banks in Rwanda significantly. However, it was in another country and also failed to use MAPs and financial performance as measured by ROA.

Local studies such as Njoki (2016) focused on the impact of MAPs on Kenyan commercial banks and found players in the sector not only embraced MAPs but also perceived them as majorly contributed to their financial success. Thumbi and Ragui (2019) studied the environmental factors and performance of commercial banks in Kenya and found that the government policy had significant moderating influence in the relationship between environmental factors and commercial banks' performance. Nevertheless, the study failed to use MAPs as independent variable thus a conceptual research gap that calls for the current study. Waihenya (2018) investigated the effects of managerial accounting practices on financial performance of manufacturing firms with a special focus on manufacturing firms in industrial Area-Nairobi and found that activity-based costing affected financial performance. However, the study was done in other sectors hence a contextual research gap. Evidently, majority of studies on MAPs focused on firm performance without using business environmental uncertainty as moderating variable. Based on the aforementioned inconclusive results they may not be extrapolated or extended to this study for several contextual (methodologies) and conceptual (variables used) reasons highlighted.

1.3 Research Hypotheses

H_{01}: There is no significant relationship between management accounting practices and financial performance of commercial banks in Kenya.

H_{01a}: There is no significant relationship between costing system and financial performance of commercial banks in Kenya.

H_{01b}: There is no significant relationship between budgeting system and financial performance of commercial banks in Kenya.

H_{01c}: There is no significant relationship between performance evaluation system and financial performance of commercial banks in Kenya.

H_{02}: There is no significant moderating effect of business environmental uncertainty on relationship between management accounting practices and financial performance of commercial in Kenya.

H_{02a}: There is no significant moderating effect of business environmental uncertainty on relationship between costing system and financial performance of commercial in Kenya.

H_{02b}: There is no significant moderating effect of business environmental uncertainty on relationship between budgeting system and financial performance of commercial in Kenya.

H_{02c}: There is no significant moderating effect of business environmental uncertainty on relationship between performance evaluation system and financial performance of commercial in Kenya.

2.1 Theoretical Framework

2.1.1 Contingency Theory

Contingency theory was authored by Professor Fred Fiedler in 1963. According to Sirajul and Naveed (2014), the theory states that organization holds that there is no one ideal approach to manage a firm, rather, the best technique to manage, lead, and decide inside a company depends on the circumstances. This theory suggests that different organizational contexts call for diverse approaches since it considers that various remedies may be effective in different scenarios (Dobak-Antal, 2010). It assumes that businesses must achieve a "good fit" between their internal systems and the external world, that they are open systems, and that there is no one ideal method to organize (McAdam, Miller, & McSorley, 2019). It also assumes that a person's accounting management style is largely fixed and challenging to alter. Consequently, rather than attempting to modify the person's style to suit the circumstance, the secret to good financial management is to find the ideal fit between the manager' style and the circumstance. The MA hypothesis mentioned above emphasizes how inconsistently MAPs are applied throughout organizations. It is doubtful that comparing MA methods across firms will produce like-for-like similarities, according to Burns and Stalker (1961). It is impossible to apply a single, universal standard of MA to every organization, as noted by Otley (1980). According to the contingency theory, each company will adopt its own MAPs. However, the theory is perceived as static in nature and lack of an organizational transformation philosophy are two criticisms leveled against it. In essence, it lacks a theoretical foundation. It is expected of an executive to consider all available options before acting, even in situations when action is not always practical. It does not offer a recommended path of action for many firms.

Despite its weaknesses, it helped in illustrating the changing nature of MAPs hence without embracing the best accounting practices, commercial banks may continue experiencing a decline in performance. The theory also suggests certain elements that management teams should consider when selecting MAPs such as budgeting, performance evaluation and costing practices that are suited for their operations, hence its applicability in this study. As a result, the theory directed the

investigation into determining whether MAPs used by commercial banks have contributed to financial performance or otherwise.

2.1.2 Goal Setting Theory

The theory was championed by Locke and Latham in 1968. It argues that setting goals is beneficial for every work in which an individual has performance control. Hollenbeck, Williams, and Klein (1989) created a helpful goal commitment measure, which they have since improved. They discovered, along with others, that commitment to goals is crucial when they are challenging, particularly when creating a budget. This implies that commitment functions in two distinct ways: first, as a moderator in situations where goal difficulty varies, and second, as a major effect in situations when goal level is maintained at a high level. Locke and Latham (1990) base their argument on the ideas that human action must be goal-directed and that conscious self-regulation, albeit volitional, is the norm. They concluded that task knowledge mediated every goal effect. Without intellect, motivation is meaningless. Budgets should therefore be set at a level that is difficult for staff members to meet; meeting a high standard target fosters efficiency, which in turn inspires a desire to do more hence increased financial performance. Based on the above argument, this theory is used in this study to guide the relationship between budgeting system and financial performance. With efficient budgets (budget authorization and participation), commercial banks enhance financial discipline thus improved financial performance can be realized hence the use of this theory to help in ascertaining how budgetary systems connects with financial performance.

2.1.3 Transaction Cost Theory (TCT)

TCT was introduced by Ronald Williamson Coase in 1937. The theory states that, the process of transaction entails pre-costs related to information gathering, sharing, matching, and settling on contracts/agreements as well as post-costs like negotiating and oversight. According to theory, cost transaction includes both direct and indirect costs associated with negotiating, overseeing, and enforcing both explicit and implicit exchanges between a company and its clients. Pecuniary transaction costs include things like travel expenses, opportunity costs, and administrative hassles. Non-pecuniary transaction costs include things like minimum deposit requirements with drawl fees, opening fees, and other requirements that must be met to access financial services (Sabana, 2014). The theory assumes that people are motivated by self-interest that is competitive. It also presumes that everyone in the economy is free to make contracts with one another and that, at the highest level, there are only markets. It argues that the best kind of structure for organizations is one that minimizes exchange costs (in this study, cost systems) to maximize economic efficiency so as to improve performance. It argues that coordination costs for organizing, regulating, and overseeing transactions are generated by every kind of transaction. Therefore, the theory argues for the existence of various transactional costs that could ultimately affected operations vis-à-vis performance. The fact that the foundation of the theory revolves around cost (standard and target costing) incurred during transaction makes this theory relevant and rightly linked the present study. Therefore, the study uses this theory to inform the relationship between costing systems and financial performance.

2.1.4 Realistic Evaluation Theory

It was developed by Ray Pawson in 1997. The theory argues for a framework for determining the results of performance interventions, how those results are obtained, and what aspects of the various environments in which the interventions are implemented are important (Pawson & Tilley,

2004). According to theory, the crucial task for performance evaluation is getting sufficient information and comprehension to forecast, with some degree of confidence, how a project and set of tasks might function in a different situation or how it will have to be modified to get better results, thereby influencing project financial performance (Jones, 2011). Based on Pawson and Tilley (2004), the theory addresses what functions best for whom, under what conditions, in what ways, and in what manner. The theory enables the assessor to determine the elements of an intervention that contribute to its effectiveness or ineffectiveness as well as the contextual elements required for the intervention to be replicated in different settings. In this study, realistic evaluation theory seeks to find the contextual conditions that make interventions such as performance evaluation systems effective thereby developing lessons on how they produce results/outcomes to improve financial performance (ROA). Additionally, this theory is used in this research because it will greatly aid in understanding how performance evaluation deliverables such as work quality and staff productivity are produced to improve banks' financial performance in the country.

2.2 Empirical Review

A study by Pokorná (2016) indicated that companies using accounting-based costing perform financially on average no better than companies not using it. Ghasghaee and Fathollahi (2014) demonstrated a clear correlation between target costs and the financial performance of the business. The study also showed a clear and substantial correlation between proactive company performance (measured by ROA) and quality evaluation. Paradzal et al. (2023) showed that the costing system had a negative impact on the decrease in cost control, leading to the conclusion that the relationship between financial performance and the ABC system was negligible. Further, Akinleye and Oluyori (2023) found that listed consumer goods saw improved financial performance when standard costing procedures were implemented. Research by Dlamini (2022) concluded that the most important factors were the socioeconomic environment, funding availability, the costs and advantages of using management accounting, the size of the company, the qualifications of the accounting staff, the financial knowledge and technology. Otieno et al. (2023) showed that conventional costing ($\beta = 0.216$, $P>0.000$) with an $R2 = 0.662$ significantly improved the manufacturing industries' financial performance. It equally revealed that target and standard costings were used for intended projects to ensure financial efficiency. Standard costing and financial performance were correlated. Waihenya (2019) demonstrated that standard costings were frequently employed by manufacturing companies. The results demonstrate the existence of a thorough activity-based costing system for support services resulted in efficient cost control.

A study by Gnawali (2017) discovered that the integration of management accounting systems including budgeting authorization and costing systems had a positive effect on the business's overall performance. It concluded that management accounting and organizational performance had a positive association, making it a strong predictor of organizational performance. Olaniyan and Efuntade (2020) showed that the factors in the model, budget planning, had a co-integration (long-run relationship). There was significant relations between budget evaluation, control, and monitoring. Yolla (2018) showed that structured planning for budgeting results in better sales revenues. Meanwhile, Ngumi and Njogo (2017) discovered that there was a negative and significant relationship between the variance in capital expenditure (CAPEX) and ROI; operating expenditure (OPEX) and ROI. Again, Panyako and Miroga (2024) determined that budget controls, participation, and auditing and monitoring of budgets and assessment, respectively, accounted for 41.5%, 51.4%, and 36.6% of the differences in financial performance.

A study by Tong et al. (2023) found that performance reviews boost employees' productivity in businesses. Performance reviews established a feedback-driven culture that enabled staff members to improve performance, raising productivity levels. Sulaiman (2019) found that performance evaluation impacts positively on employee performance. Furthermore, Bundi (2020) discovered that the three main factors influencing financial success are M&E budgeting, personnel training, and M&E planning. Ambiyo (2018) studied the influence of the Performance Management System on employee's performance in Kenya. The results showed that performance management techniques, such as goal setting, work quality, performance evaluation, feedback, and reward portrayed positive impact on workers' performance and performance management systems help employees perform better, which helps the firm achieve its objectives.

A study by Wang and Fang (2012) discovered that a contingent view of the circumstances in which network border conditions affect inventive performance is produced by the combination of network structure, innovative performance, and environmental uncertainty. Tran et al. (2021) showed that the impact of EPU on bank business models did not significantly alter the decisions made by banks regarding non-interest revenue. It finds that during that time, there was a positive link between EPU and NIIA. However, the study did not employ any theory as opposed to the present study. Xing et al. (2022) found that bank risk, z-score, and profitability all showed negative coefficients of economic uncertainty. Nguyen, Liu, Haslam, and McLaren (2023) found that organizational performance moderated by PEU is only positively impacted when lower-level managers participate in defining performance targets. Further, Quang (2017) statistically supported that environmental uncertainty moderated company performance when managerial accounting was used. Abu and Saleh (2022) discovered that the association between MASE and corporate performance (FP and NFP) is not moderated by environmental uncertainty, specifically clientele, competition, and technological uncertainty independently. Nyaranga and Odollo (2023) showed that, environmental uncertainty as measured using customer's taste and preferences, action of competitors, and innovation significantly improved bank performance ($p<.05$). Further, Thumbi and Ragui (2019) discovered that performance was significantly impacted by organizational resources regardless of government regulations. Performance was significantly impacted by organizational structure. Maina (2017) showed that Barclays Bank's performance is impacted by industry, environmental (competitors' action and market trend), and internal factors (products, services, and innovation).

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2.2 Conceptual Framework

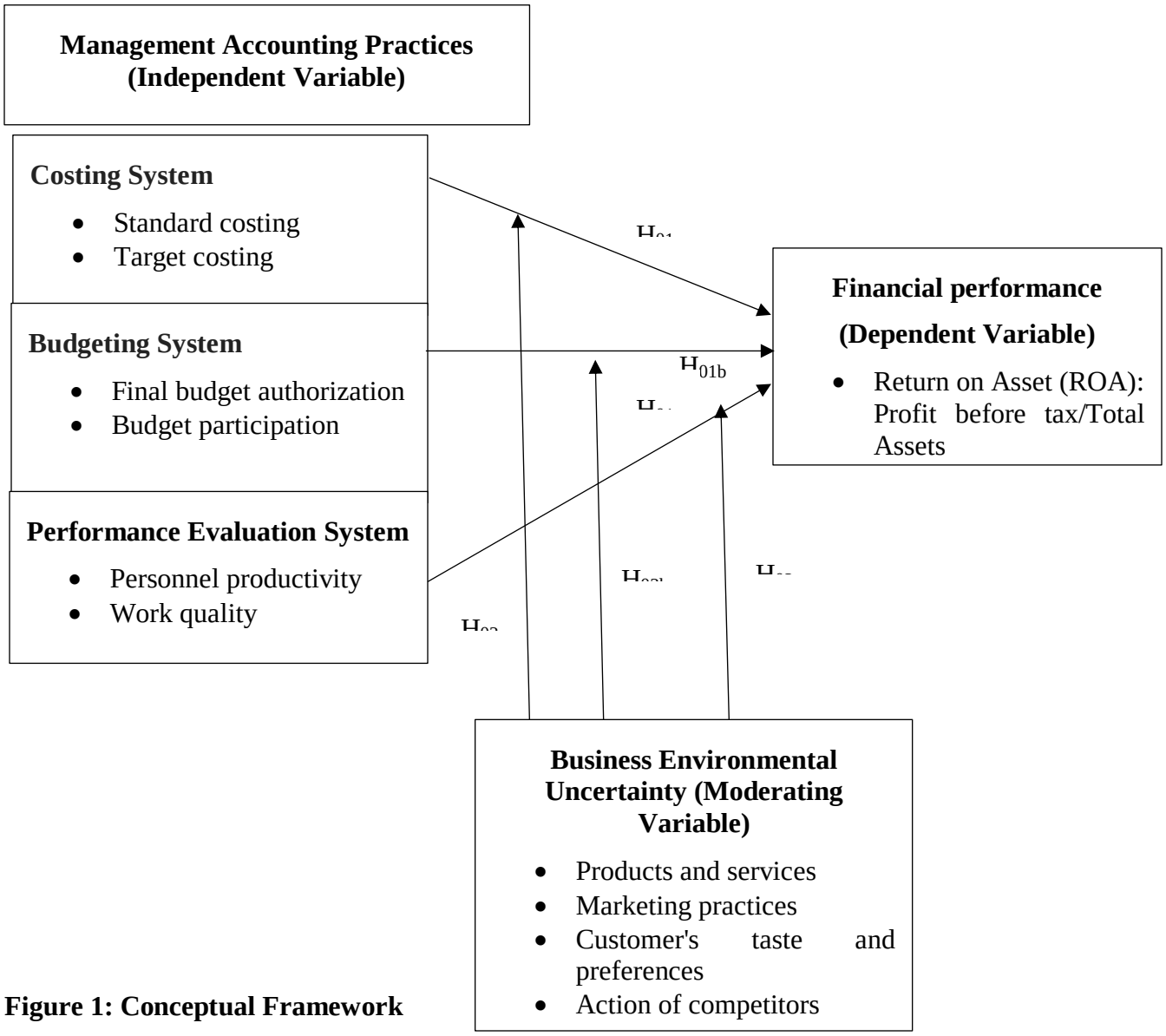

Figure 1: Conceptual Framework

3.0 Research Methodology

Correlational research design was used and it targeted 42 commercial banks (unit of analysis. All employees in finance and accounting department were selected. There were a total of 1290 employees in the finance and accounting departments in the 42 commercial banks. This research applied the Yamane scientific formula from 1967 to get an appropriate sample size.

Yamane formula: $n = N/(1 + Ne^2)$

$$n = 1290\ /(1 + 1290 \times 0.05^2)$$

$$n = 305.33$$

$$n \approx 305 \text{ respondents}$$

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Regarding sampling procedures, personnel in the accounting and finance departments were sampled utilizing systematic random sampling. Primary (using questionnaire) and secondary data that were quantitative in nature were gathered. Meanwhile, secondary data (2019-2023) relating to ROA was gathered from the yearly financial reports published on the websites of all the commercial banks. Analysis methods comprised descriptive statistics, Pearson correlation, and hierarchical regressions. The regression models were as follows.

Model 1: Testing for direct effects of MAPs on financial performance (Hypotheses 1a,1b and 1c)

$FP= \beta_0 + \beta_1 CS + \beta_2 BS + \beta_3 PES + \beta_3 BEU + e$……Model 1

Model 2: Testing moderating effect of business environmental uncertainty on relationship between costing system and financial performance of commercial banks in Kenya (Hypothesis 2a)

$FP= \beta_0 + \beta_4 CS + \beta_5 BEU + \beta_6 (CS * BEU) + e$……Model 2

Model 3: Testing moderating effect of business environmental uncertainty on relationship between budgeting system and financial performance of commercial banks in Kenya (Hypothesis 2b)

$FP= \beta_0 + \beta_7 BS + \beta_8 BEU + \beta_9 (BS * BEU) + e$……Model 3

Model 4: Testing moderating effect of business environmental uncertainty on relationship between performance evaluation system and financial performance of commercial banks in Kenya (Hypothesis 2c)

$FP= \beta_0 + \beta_{10} PES + \beta_{11} BEU + \beta_{12} (PES * BEU) + e$……Model 4

Where:

FP; Financial Performance (Dependent Variable)

CS ; Casting System (Independent Variable 1)

BS ; Budgeting System (Independent Variable 2)

PES ; Performance Evaluation System (Independent Variable 3)

BEU ; Business Evironmental Uncertainty (Moderating Variable)

e; Random error term

$\beta_{0;}$ The constant

β_1 to $\beta_{12;}$ Beta Coefficients

4.0 Findings and Discussion

This section presents the empirical findings derived from the analysis of data collected from 305 respondents across 42 commercial banks in Kenya. The analysis examines the relationships between management accounting practices (costing systems, budgeting systems, and performance evaluation systems) and financial performance, as well as the moderating effect of business environmental uncertainty on these relationships. The findings are organized into correlation analysis, regression analysis for direct effects, and moderation analysis using hierarchical regression models. Each section provides detailed statistical results, interpretation of findings, and comparison with existing literature to contextualize the results within the broader academic discourse.

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4.1 Correlation Analysis Results

The Pearson correlation analysis was conducted to examine the bivariate relationships between the study variables before proceeding to multivariate regression analysis. Table 1 presents the correlation matrix showing the strength and direction of relationships between management accounting practices, business environmental uncertainty, and financial performance.

Table 1: Correlations Analysis

Variable	Costing Systems	Budgeting Systems	Performance Evaluation Systems	Business Environment Uncertainty	Financial Performance
Costing Systems	r = 1				
	Sig.				
Budgeting Systems	r = -0.005	r = 1			
	Sig. = 0.939				
Performance Evaluation Systems	r = 0.002	r = -0.208**	r = 1		
	Sig. = 0.977	Sig. = 0.001			
Business Environment Uncertainty	r = 0.102	r = -0.051	r = 0.280**	r = 1	
	Sig. = 0.115	Sig. = 0.427	Sig. = 0.000		
Financial Performance	r = 0.200**	r = 0.036	r = 0.309**	r = -0.291**	r = 1
	Sig. = 0.002	Sig. = 0.581	Sig. = 0.000	Sig. = 0.000	

The correlation analysis reveals several important relationships among the study variables. Costing systems demonstrated a positive and significant correlation with financial performance ($r = 0.200$, $p = 0.002 < 0.01$), indicating that banks with more sophisticated costing systems tend to achieve better financial performance. This finding aligns with transaction cost theory, which suggests that effective cost management systems contribute to organizational efficiency and performance enhancement. Budgeting systems showed a positive but statistically insignificant correlation with financial performance ($r = 0.036$, $p = 0.581 > 0.01$). This weak relationship suggests that while budgeting practices may contribute to financial performance, the relationship is not strong enough to be statistically significant in this sample. This finding contrasts with goal-setting theory expectations but may reflect variations in budget implementation quality across the sampled banks. Performance evaluation systems exhibited the strongest positive correlation with financial performance ($r = 0.309$, $p = 0.000 < 0.01$), suggesting that banks with comprehensive performance evaluation systems achieve superior financial outcomes. This finding supports realistic evaluation

theory and indicates that systematic performance measurement and evaluation contribute significantly to organizational success.

Business environmental uncertainty demonstrated a negative and significant correlation with financial performance ($r = -0.291$, $p = 0.000 < 0.01$), indicating that higher levels of environmental uncertainty are associated with poorer financial performance. This relationship suggests that unpredictable business environments create challenges that negatively impact bank performance, supporting contingency theory's emphasis on environmental fit. The intercorrelations among independent variables reveal some noteworthy relationships. Performance evaluation systems showed a significant positive correlation with business environmental uncertainty ($r = 0.280$, $p = 0.000 < 0.01$), suggesting that banks operating in uncertain environments tend to implement more comprehensive performance evaluation systems as a response mechanism. Additionally, performance evaluation systems demonstrated a significant negative correlation with budgeting systems ($r = -0.208$, $p = 0.001 < 0.01$), which may indicate that these two management accounting practices serve different organizational functions or reflect different management philosophies.

4.2 Direct Relationship Analysis Between Management Accounting Practices and Financial Performance

To test the direct relationships between management accounting practices and financial performance, hierarchical regression analysis was conducted. This analysis addresses the primary research hypotheses regarding the individual effects of costing systems, budgeting systems, and performance evaluation systems on financial performance.

Table 2: Model Summary

Model	R	R Square (R^2)	Adjusted R^2	Standard Error of Estimate
1	0.416[a]	0.173	0.159	3.29171

[a] Predictors: (Constant), Performance Evaluation Systems, Budgeting Systems, Costing Systems

The model summary indicates that the three management accounting practices collectively explain 17.3% of the variance in financial performance ($R^2 = 0.173$). The adjusted R^2 of 0.159 suggests that after accounting for the number of predictors, the model explains approximately 15.9% of the variance in financial performance. While this explanatory power is modest, it represents a meaningful contribution to understanding financial performance determinants in the banking sector.

Table 3: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	535.231	4	133.808	12.349	0.000[b]
Residual	2557.143	236	10.790		
Total	3092.373	240			

[b] Predictors: (Constant), Performance Evaluation Systems, Budgeting Systems, Costing Systems

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The ANOVA results demonstrate that the overall regression model is statistically significant ($F(4,236) = 12.349$, $p < 0.001$), indicating that at least one of the management accounting practices has a significant relationship with financial performance. This validates the appropriateness of the regression model for hypothesis testing.

Table 4: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	46.263	5.188		8.917	0.000
Costing Systems	0.225	0.075	3.012	2.217	0.003
Budgeting Systems	0.050	0.104	0.480	0.256	0.632
Performance Evaluation Systems	0.646	0.158	4.089	3.899	0.000

Fitted Regression Model:

$$FP = 8.917 + 3.012CS + 0.480BS + 4.089PES$$

H_{1a}: Relationship between Costing System and Financial Performance

The analysis reveals that costing systems have a positive and statistically significant relationship with financial performance ($\beta = 3.012$, $p = 0.003 < 0.05$). This finding leads to the rejection of the null hypothesis H_{o1a}. The standardized coefficient indicates that a one-unit increase in costing system effectiveness leads to a 3.012-unit increase in financial performance, holding other variables constant. This result aligns with several studies in the literature. Iliemena and Amedu (2019) found that standard costing significantly enhances financial performance, particularly return on assets. Similarly, Akinleye and Oluyori (2023) established a positive significant relationship between costing systems and financial performance in consumer goods companies. The finding supports transaction cost theory, which argues that effective cost management systems reduce transaction costs and improve organizational efficiency. However, this finding contrasts with Otieno et al. (2023), who found that while target and standard costing systems were implemented for financial efficiency, they had an insignificant relationship with financial performance. This discrepancy may be attributed to industry differences, implementation quality, or measurement variations across studies.

$H_{1\beta}$: Relationship between Budgeting System and Financial Performance

The analysis shows that budgeting systems have a positive but statistically insignificant relationship with financial performance ($\beta = 0.480$, $p = 0.632 > 0.05$). Consequently, the null hypothesis $H_{o1\beta}$ is not rejected. While the direction of the relationship is positive, the lack of

statistical significance suggests that budgeting systems alone may not be sufficient to improve financial performance in the studied banks. This finding is consistent with Olaniyan and Efuntade (2020), who established a positive but insignificant connection between budgetary control systems and financial performance. The result suggests that while budgeting systems may contribute to organizational planning and control, their direct impact on financial performance may be contingent on implementation quality and organizational context. The insignificant relationship contradicts goal-setting theory expectations, which posits that well-structured budgeting systems should enhance performance through clear target setting and resource allocation. However, it aligns with Ngumi and Njogo (2017), who found negative relationships between certain budgeting practices and performance, though their study showed significance. The mixed evidence in the literature suggests that the effectiveness of budgeting systems may depend on organizational factors not captured in this study.

H_1^c: Relationship between Performance Evaluation System and Financial Performance

Performance evaluation systems demonstrate a positive and highly significant relationship with financial performance ($\beta = 4.089$, $p = 0.000 < 0.01$). This result leads to the rejection of the null hypothesis H_{01}^c and represents the strongest relationship among the three management accounting practices examined. The finding strongly supports realistic evaluation theory, which emphasizes the importance of systematic performance measurement and evaluation for organizational effectiveness. This result is consistent with Sulaiman (2019), who found that performance evaluation positively impacts overall organizational performance. Similarly, Ambiyo (2018) demonstrated that performance evaluation techniques, including goal setting and feedback mechanisms, have significant positive associations with employee and organizational performance. The strength of this relationship suggests that banks investing in comprehensive performance evaluation systems, including financial benchmarks and quality work standards, achieve superior financial outcomes. This may be attributed to improved accountability, better resource allocation, and enhanced decision-making processes that result from systematic performance measurement.

4.3 Moderating Effects Analysis

The study examined the moderating role of business environmental uncertainty on the relationships between management accounting practices and financial performance using hierarchical regression analysis. This analysis addresses the secondary research hypotheses regarding environmental contingencies.

Table 5: Model Summary - Costing System Moderation

Model	R	R^2	Adjusted R^2	Standard Error of Estimate
1	0.338[a]	0.114	0.107	3.39293
2	0.384[b]	0.181	0.127	3.44874

[a] Predictors: (Constant), BEU, CS [b] Predictors: (Constant), BEU*CS (interactive effects)

The moderation analysis shows that the inclusion of the interaction term increases the explained variance from 11.4% to 18.1%, representing a 6.7 percentage point increase in explanatory power.

Table 6: Regression Coefficients - Costing System Moderation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Model 1:					
(Constant)	36.955	3.638		6.159	0.000
Costing Systems	-0.216	0.077	-2.810	-1.810	0.005
Business Environment Uncertainty	-0.591	0.133	-4.444	-2.456	0.000
Model 2:					
(Constant)	23.470	1.369		9.140	0.000
CS*BEU (Interactive Effects)	0.012	0.003	4.000	1.582	0.000

H_{2a}: Moderating Effect on Costing System-Performance Relationship

The analysis reveals that business environmental uncertainty has a positive and significant moderating effect on the relationship between costing systems and financial performance ($\beta = 4.000$, $p = 0.000 < 0.05$). This finding leads to the rejection of the null hypothesis H_{o2a}.

The positive moderation effect suggests that the relationship between costing systems and financial performance becomes stronger under conditions of higher environmental uncertainty. This finding supports contingency theory, which argues that the effectiveness of management systems depends on environmental conditions. In uncertain environments, sophisticated costing systems may provide crucial information for decision-making and risk management.

Table 7: Model Summary - Budgeting System Moderation

Model	R	R^2	Adjusted R^2	Standard Error of Estimate
1	0.151[a]	0.023	0.019	3.55582
2	0.292[b]	0.085	0.077	3.44795

The interaction effect increases explanatory power from 2.3% to 8.5%, indicating that environmental uncertainty significantly influences the budgeting-performance relationship.

Table 8: Regression Coefficients - Budgeting System Moderation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Model 2:					
(Constant)	22.602	2.266		7.354	0.000
BS*BEU (Interactive Effects)	0.008	0.003	2.667	1.965	0.019

$H_{2\beta}$: Moderating Effect on Budgeting System-Performance Relationship

Business environmental uncertainty demonstrates a positive and significant moderating effect on the budgeting system-financial performance relationship ($\beta = 2.667$, $p = 0.019 < 0.05$). The null hypothesis $H_{o2\beta}$ is therefore rejected.

This finding suggests that while budgeting systems may have limited direct effects on performance, their effectiveness increases significantly under uncertain environmental conditions. In volatile environments, budgeting systems may serve as crucial planning and control mechanisms that help organizations navigate uncertainty.

Table 9: Model Summary - Performance Evaluation System Moderation

Model	R	R^2	Adjusted R^2	Standard Error of Estimate
1	0.375[a]	0.141	0.133	3.34173
2	0.383[b]	0.147	0.143	3.32290

Table 10: Regression Coefficients - Performance Evaluation System Moderation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Model 2:					
(Constant)	29.376	1.900		10.876	0.000
PES*BEU (Interactive Effects)	0.025	0.004	6.250	5.812	0.000

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H_2^c: Moderating Effect on Performance Evaluation System-Performance Relationship

The analysis shows that business environmental uncertainty has a positive and highly significant moderating effect on the performance evaluation system-financial performance relationship ($\beta = 6.250$, $p = 0.000 < 0.01$). This represents the strongest moderation effect among all three management accounting practices, leading to rejection of the null hypothesis H_{02}^c. This finding indicates that performance evaluation systems become increasingly important for financial performance as environmental uncertainty increases. In uncertain conditions, systematic performance measurement and evaluation may provide critical feedback mechanisms that enable organizations to adapt and maintain performance levels. The results collectively demonstrate that business environmental uncertainty serves as a significant moderator that enhances the effectiveness of management accounting practices in contributing to financial performance. This supports contingency theory's central premise that the value of management systems depends on environmental conditions.

5.0 Conclusion

On costing system, the study conclude that banks had measures for efficient cost control, maintained standard costing, adhered to activities focused costings to reduce cash diversion, and relied on quality costings to promote performance. However, it was unclear whether banks ensured costings were used for intended or targeted projects proposed by the studied banks. Concerning budgeting systems, it concludes banks insisted on final budget authorization, ensured all departments were involved in budget making, had budgeting procedures for financial planning, adhered to activity-based budgets for prompt financial plans, and embraced regular budget evaluation and monitoring. All these were done with the aim of increasing financial performance. Regarding performance evaluation system, the research concluded that banks had benchmarks for financial performance evaluation and insisted on the provision of quality work by employees alongside using 360 degrees for knowledge evaluation of the workers. However, the banks lack regular provision of training for all staff and they failed to adequately conduct regular evaluation of staff skills to improve productivity.

In reference to business environmental uncertainty, it concluded that banks insisted on quality products and timely services, they endeavored to embrace technology driven marketing practices, and adhered to offering products as per customer's taste and preferences, as well as upholding innovativeness to outshine competitors. Banks also embraced innovative ideas to remain relevant in the dynamic environment in as much as they occasionally evaluated the performance of products and services. In connection to commercial banks' financial performance, the study concluded that banks in Kenya realized increased revenue and customer growth in the recent past and this could be attributed to the high satisfaction levels of customers with the banks services that could help in promoting growth. However, the lack of opening of new branches point to a possible underperformance by most banks.

6.0 Recommendations

Regarding costing systems, banks should make sure that the costing systems (target and standard costings) are regularly reviewed and updated to reflect evolving market conditions and technology developments. The costing system can be kept effective by regular updates and enhancements, offering accurate and current financial data for improved decision-making processes, cost management, and performance optimization. Concerning budgeting systems, the study

recommends that banks should implement performance-based budgeting, which distributes funds according on how well departments or products perform. Banks can reward high-performing departments, increase accountability, and optimize resource allocation by tying the budget to performance criteria like budget evaluation and monitoring. This strategy improves financial outcomes and cultivates an efficient culture. On the performance evaluation system, the study recommends that the banks ought to connect training and skill-building initiatives to performance evaluation indicators. Training programs that are in line with performance reviews guarantee that staff advancement is closely linked to the bank's financial objectives. This improves the bank's total profitability by having a quantifiable effect on operational performance. Regarding business environmental uncertainty, the research recommends that banks should make investments in innovation and digital technologies to increase resistance to market upheavals. By being innovative using leveraged technologies, banks may increase operational efficiency, cut expenses, increase customer service, and manage operations more effectively. Therefore, banks can enhance their financial performance in the ever-unpredictable business environment by being more responsive to consumer needs by adjusting to technology advancements.

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