Accounting Output Innovation Approaches and Financial Sustainability of Tier One Banks in Kenya

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Abstract- This study examines the relationship between accounting output innovation approaches and financial sustainability of Tier One banks in Kenya. Using a correlational research design, data was collected from 242 senior and middle-level managers across 8 Tier One banks through questionnaires. The study employed descriptive statistics, correlation analysis, and regression analysis to analyze the data. Results indicate a moderate positive correlation ($r = 0.394$, $p < 0.05$) between accounting output innovation and financial sustainability. Online banking emerged as the most prominently used innovation approach ($M = 3.9211$, $SD = 0.94101$). The regression model explains 15.5% of the variance in financial sustainability ($R^2 = 0.155$). These findings suggest that while accounting output innovation significantly contributes to financial sustainability, other factors also play important roles. The study recommends that banks prioritize digital banking solutions and adopt a strategic approach to accounting innovation. Policymakers should develop regulatory frameworks that encourage innovation while ensuring consumer protection. This research contributes to the understanding of accounting innovation in the context of developing economies and provides insights for enhancing financial sustainability in the banking sector.

Indexed Terms- Accounting Output Innovation Approaches, Financial Sustainability, Tier One Banks

I. INTRODUCTION

Accounting innovation has become increasingly important for banks as they strive to maintain financial sustainability in a rapidly evolving financial landscape. In recent years, the banking sector has faced numerous challenges, including increased competition, regulatory pressures, and technological advancements, which have necessitated the adoption of innovative accounting approaches (Cherotich, 2015). These innovations are crucial for banks to improve their financial performance, manage risks effectively, and meet the changing needs of customers. The concept of accounting output innovation encompasses various aspects, including the preparation and presentation of financial statements, maintenance of asset and debtor registers, and development of other financial products (Storey and Easingwood, 1998). These innovations provide banks with the means to ensure sustainable product advantages and retain a strong competitive position in the market. As noted by Abou-moghli & Al Muala (2012), the environment and conditions surrounding business are dynamic and competitive, directly affecting the financial sustainability of organizations.
Despite the recognized importance of accounting innovation, many banks, particularly in developing economies, struggle to effectively implement and leverage these approaches to enhance their financial sustainability. This problem is particularly acute for Tier One banks in Kenya, which face intense competition and regulatory scrutiny (Mukira, 2022). The lack of a comprehensive understanding of how accounting output innovation approaches impact financial sustainability hinders these banks from fully capitalizing on potential benefits.

The primary objective of this study is to examine the effect of accounting output innovation approaches on the financial sustainability of Tier One banks in Kenya. Specifically, the research aims to:

1. Investigate the relationship between accounting output innovation and financial sustainability metrics.
2. Assess the extent to which different accounting output innovation approaches contribute to improved financial performance.

3. Identify the key challenges and opportunities in implementing accounting output innovations in the Kenyan banking sector.

This study is significant as it contributes to the growing body of literature on accounting innovation and financial sustainability in the banking sector. By focusing on Tier One banks in Kenya, the research provides valuable insights into the unique challenges and opportunities faced by financial institutions in developing economies. The findings of this study can inform bank managers and policymakers in developing strategies to enhance financial sustainability through innovative accounting practices. Furthermore, as noted by Kiiyuru (2014), practices for innovation are essential for the long-term growth and sustainable development of banks, making this research particularly relevant in the current economic climate.

II. LITERATURE REVIEW

Theoretical Framework

Constraint-Induced Accounting Innovation Theory

The Constraint-Induced Accounting Innovation Theory, developed by Silber (1983), posits that the primary motivation for adopting accounting innovation in a firm is to improve its financial position. According to this theory, firms face both external constraints (e.g., regulatory policies) and internal constraints (e.g., organizational management) that can limit their efficiency and stability. As a result, banking institutions strive to overcome or mitigate these constraints through accounting innovation (Silber, 1983).

This theory suggests that banks operating in markets with more constraints have the greatest incentive to embrace accounting innovations that can help boost their financial sustainability by reducing operational costs. Furthermore, the theory predicts that commercial banks that fail to adopt accounting innovations may be at risk of failure (Simon Johnson, 2012). In the context of Tier One banks in Kenya, this theory provides a framework for understanding how these institutions might leverage accounting output innovations to overcome regulatory and competitive constraints in their pursuit of financial sustainability.

Transaction Cost Innovation Theory

The Transaction Cost Innovation Theory, established by Niehans (1983), argues that the main driver for accounting innovation is the reduction of transaction costs and the pursuit of increased benefits. This theory posits that technological advancements catalyze accounting innovation by reducing transaction costs and improving financial sustainability (Niehans, 1983).

In the banking context, this theory is particularly relevant as financial institutions face the ongoing challenge of increasing transaction costs that threaten their financial sustainability. As a result, they are compelled to invent methods that reduce transaction costs (Cherotich, 2016). For Tier One banks in Kenya, this theory provides insight into how accounting output innovations might be leveraged to streamline operations and reduce costs, thereby enhancing financial sustainability.

Empirical Literature on Accounting Output Innovation and Financial Sustainability

Several empirical studies have examined the relationship between accounting output innovation and financial sustainability in the banking sector. Akhisar et al. (2015) found that banks providing extensive online banking services tend to perform better financially. Their study revealed that online banking services, such as check deposits and publishing of financial statements, help community banks improve their earning ability as measured by return on equity and improved accounting output innovation.

Mukira (2022) showed that practices for accounting innovation are essential for the long-term growth and sustainable development of the banking sector in Kenya. The study prescribed that financial institutions should embrace innovative tactics, including expanding product ranges, product replacement, product improvement, and unique product creation, to enhance profitability and revenue growth.

Bernardus Franco Maseke (2021) conducted research on innovations and financial sustainability in the banking industry in Kenya. The findings revealed that bank innovations had a statistically significant influence on income, liquidity, and profitability of

commercial banks in Kenya. The study concluded that bank innovations positively influence the financial sustainability of commercial banks in Kenya.

Research Gaps Identified

Despite the growing body of literature on accounting innovation and financial sustainability in banking, several research gaps remain:

1. Limited focus on Tier One banks: Most studies have focused on the broader banking sector, with limited attention given to the specific challenges and opportunities faced by Tier One banks in developing economies like Kenya.
2. Lack of comprehensive framework: There is a need for a more holistic framework that integrates various accounting output innovation approaches and their impact on different aspects of financial sustainability.
3. Insufficient exploration of implementation challenges: While many studies highlight the benefits of accounting innovation, there is limited research on the practical challenges banks face in implementing these innovations and how they overcome them.
4. Limited longitudinal studies: Most existing research provides a snapshot of the relationship between accounting innovation and financial sustainability, with few studies examining the long-term impacts of these innovations.
5. Inadequate consideration of regulatory context: There is a need for more research that considers how the regulatory environment in developing economies like Kenya influences the adoption and effectiveness of accounting output innovations in banking.

Addressing these gaps would provide a more comprehensive understanding of how accounting output innovation approaches impact the financial sustainability of Tier One banks in Kenya and similar contexts.

III. METHODOLOGY

Research Design

This study employed a correlational research design to investigate the relationship between accounting output innovation approaches and financial sustainability of Tier One banks in Kenya. This design was chosen as it allows for the examination of relationships between variables without the researcher manipulating or controlling any of them. As stated in the thesis, "This study used correlation design in order to investigate relationship between the variables without the researcher controlling or manipulating any of them. It was also used because it reflects the strength of the relationship between the variables" (Section 3.2).

Target Population and Sampling

The target population for this study consisted of 8 Tier One banks in Kenya. These banks were selected based on information from banking regulators such as the Central Bank of Kenya and the Capital Market Authority website. The sampling frame comprised senior and middle-level managers who were perceived to have crucial information on innovation in the banking sector.

The study used the Krejcie & Morgan (1970) table to determine the sample size, which was 242 respondents out of a total population of 650 senior and middle-level managers. Convenience sampling technique was used to select the respondents from each bank. As stated in the thesis, "Convenience sampling is a non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access, due to geographical proximity, availability at a given time or willingness to participate in the research" (Section 3.5.1).

Data Collection Methods

Primary data was collected using questionnaires administered to the selected respondents. The questionnaire was designed to gather information on accounting output innovation approaches and financial sustainability indicators. As mentioned in the thesis, "Questionnaires were used to collect primary data from the senior managers and middle level managers who are perceived to be crucial in innovation strategic formulation and implementation in 8 chosen Banking institutions" (Section 3.6.1).

The questionnaire was structured using a 5-point Likert scale, ranging from strongly agree to strongly disagree. It covered various aspects of accounting output innovation, including financial statements, invoices, asset registers, and online banking. Financial sustainability was measured through indicators such as

liquidity ratio, business risks, profitability, and productivity.

Data Analysis Techniques
The collected data was analyzed using both descriptive and inferential statistics. Descriptive statistics included measures such as frequencies, percentages, means, and standard deviations to summarize the characteristics of the data.

For inferential statistics, the study employed the following techniques:

1. Pearson Correlation Analysis: This was used to test the strength of the relationship between the study variables, specifically between accounting output innovation approaches and financial sustainability.
2. Simple Linear Regression: This was used to determine the extent of interaction between the dependent variable (financial sustainability) and the independent variable (accounting output innovation approaches).
3. Multiple Linear Regression: This was used to test the hypotheses and examine the combined effect of various accounting output innovation approaches on financial sustainability.

The study also conducted several diagnostic tests to ensure the validity of the regression models, including tests for linearity, normality, homoscedasticity, and multicollinearity.

Data analysis was facilitated using SPSS version 25, as mentioned in the thesis: "Raw data was cleaned, coded and put into the computer in readiness for analysis. Data was analyzed through descriptive (mean, percentages, standard deviation and frequencies) and inferential statistics that enabled the researcher to meaningfully describe distribution of scores" (Section 3.8).

This methodology was designed to provide a comprehensive analysis of the relationship between accounting output innovation approaches and financial sustainability in Tier One banks in Kenya, allowing for robust and reliable findings.

IV. RESULTS AND DISCUSSION

Descriptive Statistics on Accounting Output Innovation Approaches

The study examined various accounting output innovation approaches used by Tier One banks in Kenya. Table 1 presents the descriptive statistics for these approaches.

Table 1: Descriptive Statistics for Accounting Output Innovation Approaches

Approach	Mean	Std. Deviation
Financial statements	2.9211	1.42149
Invoices	3.0789	1.42149
Asset registers	3.0526	1.43220
Debtors registers	3.2895	1.39319
Cheques paid out	2.9211	1.42149
Online banking	3.9211	0.94101
Product differentiation	2.9211	1.42149
Long-term growth focus	3.0526	1.43220

The results indicate that online banking (M = 3.9211, SD = 0.94101) was the most prominently used accounting output innovation approach among Tier One banks. This was followed by debtors registers (M = 3.2895, SD = 1.39319) and invoices (M = 3.0789, SD = 1.42149). Financial statements and cheques paid out had the lowest mean scores (M = 2.9211, SD = 1.42149 for both), suggesting they were less emphasized as innovation approaches.

Correlation and Regression Analysis Results
Pearson correlation analysis was conducted to examine the relationship between accounting output innovation approaches and financial sustainability. The results are presented in Table 2.

Table 2: Correlation between Accounting Output Innovation and Financial Sustainability

Variable	Correlation Coefficient	Sig. (2-tailed)
Accounting Output Innovation	0.394*	0.014

*Correlation is significant at the 0.05 level (2-tailed)

The results show a moderate positive correlation ($r = 0.394$, $p < 0.05$) between accounting output innovation and financial sustainability, indicating a significant relationship between these variables.

Simple linear regression analysis was performed to further investigate this relationship. The results are presented in Table 3.

Table 3: Simple Linear Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.394	0.155	0.132	1.05673

The regression model explains 15.5% of the variance in financial sustainability ($R^2 = 0.155$). The ANOVA results ($F = 6.613$, $p = 0.014$) indicate that the model is statistically significant.

Discussion of Key Findings

The results of this study provide several key insights into the relationship between accounting output innovation approaches and financial sustainability in Tier One banks in Kenya:

1. Online Banking as a Key Innovation: The high mean score for online banking (3.9211) suggests that Tier One banks in Kenya are prioritizing digital transformation in their accounting output innovations. This aligns with findings by Akhisar et al. (2015), who found that banks providing extensive online banking services tend to perform better financially.
2. Positive Impact on Financial Sustainability: The significant positive correlation ($r = 0.394$, $p < 0.014$) between accounting output innovation and financial sustainability supports the theoretical frameworks of both the Constraint-Induced Accounting Innovation Theory (Silber, 1983) and the Transaction Cost Innovation Theory (Niehans, 1983). This indicates that banks adopting innovative accounting output approaches are likely to see improvements in their financial sustainability.
3. Moderate Explanatory Power: The regression model's R^2 value of 0.155 suggests that accounting output innovation explains 15.5% of the variance in financial sustainability. While this indicates a meaningful relationship, it also implies that other factors not captured in this study play a significant role in determining financial sustainability.
4. Variation in Innovation Adoption: The varying mean scores across different innovation approaches suggest that Tier One banks in Kenya are not uniformly adopting all types of accounting output innovations. This may indicate a strategic approach to innovation, where banks focus on specific areas they believe will yield the greatest benefits.
5. Room for Improvement: The relatively low mean scores for some traditional accounting outputs (e.g., financial statements, cheques) suggest there may be untapped potential for innovation in these areas, which could further enhance financial sustainability.

These findings support the assertion by Mukira (2022) that accounting innovation practices are essential for the long-term growth and sustainable development of the banking sector in Kenya. They also align with the conclusions of Bernardus Franco Maseke (2021), who found that bank innovations had a statistically significant influence on income, liquidity, and profitability of commercial banks in Kenya.

However, the moderate strength of the relationship between accounting output innovation and financial sustainability suggests that while innovation is important, it is not the sole determinant of a bank's financial health. This highlights the need for a holistic approach to financial management that incorporates innovation alongside other strategic initiatives.

CONCLUSION

This study examined the relationship between accounting output innovation approaches and financial sustainability of Tier One banks in Kenya. The findings revealed a moderate positive correlation between accounting output innovation and financial sustainability, indicating that innovative accounting practices contribute significantly to the financial health of these banks. Online banking emerged as the most prominently used accounting output innovation approach, highlighting the growing importance of digital transformation in the banking sector.

The regression analysis showed that accounting output innovation explains 15.5% of the variance in financial sustainability. While this demonstrates a meaningful relationship, it also suggests that other factors play substantial roles in determining a bank's financial sustainability. The varying levels of adoption across different accounting output innovation approaches indicate that Tier One banks in Kenya are strategically selective in their innovation efforts, focusing on areas they perceive to offer the greatest benefits.

Based on these findings, it can be concluded that accounting output innovation plays a significant role in enhancing the financial sustainability of Tier One banks in Kenya. This supports both the Constraint-Induced Accounting Innovation Theory and the Transaction Cost Innovation Theory, underscoring the importance of innovation in overcoming operational constraints and reducing transaction costs. However, the moderate strength of the relationship also implies that accounting innovation should be part of a comprehensive approach to financial management rather than a standalone solution.

For banks, these findings suggest the need to prioritize investment in digital banking solutions, particularly online banking platforms. Banks should develop a strategic approach to accounting output innovation, focusing on areas that offer the greatest potential for improving financial performance. They should also explore innovative approaches to traditional accounting outputs to unlock untapped potential. Regular assessments of the impact of accounting innovations on financial sustainability should be implemented to guide future innovation strategies.

Policymakers, on the other hand, should focus on developing regulatory frameworks that encourage and facilitate accounting innovation in the banking sector, particularly in digital banking. Providing incentives for research and development in accounting innovation can foster a culture of continuous improvement. Establishing guidelines for the safe and ethical implementation of accounting innovations is crucial to protect both banks and consumers. Furthermore, promoting knowledge sharing and collaboration among banks can accelerate the adoption of beneficial accounting innovations across the sector.

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