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Mugabo Sam and Malgit Amos Akims, PhD

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Loan Delinquency and Profitability of Equity Bank, Rwanda

[1*]Mugabo Sam
Master of Business Administration (Finance Option), Mount Kenya University

[2]Malgit Amos Akims, PhD
Mount Kigali University

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Abstract

Purpose: The general objective of the study was to examine the effect of loan delinquency on the profitability of equity bank, Rwanda. The specific objectives of the study were: to examine the effect of interest rate, loan policy, loan size and loan duration on profitability of Equity bank in Rwanda.

Methodology: Both correlational and descriptive research design utilize questionnaires to collect data on a variety of subjects. The target population consisted of 175 individuals from Equity Bank Rwanda, including Senior Management, Loan Officers, Risk Management Team, Financial Analysts, and the Compliance and Regulatory Team. By applying Slovin's formula, the researcher has determined that a suitable sample size would be 122 participants. The research employed basic random sampling to guarantee that each member of the population has an equal chance of being picked. Data collection incorporated both questionnaires and document analysis to gather comprehensive information. Data for this research was analyzed using the Statistical Product and Service Solutions (SPSS) version 25.

Findings: The regression coefficients reveal the significant impact of each predictor on the profitability of Equity Bank, Rwanda. The constant term ($\alpha = 0.090$) indicates the expected profitability when all independent variables (Interest Rate, Loan Policy, Loan Size, and Loan Duration) are zero. The unstandardized coefficients show that a one-unit increase in Interest Rate ($B = 0.197$, $t = 4.205$, p-value = 0.000), Loan Policy ($B = 0.267$, $t = 6.389$, p-value = 0.000), Loan Size ($B = 0.388$, $t = 7.709$, p-value = 0.000), and Loan Duration ($B = 0.135$, $t = 3.282$, p-value = 0.001) results in respective increases in profitability of 0.197, 0.267, 0.388, and 0.135. All these relationships are statistically significant, with p-values well below the 0.05 threshold, highlighting the strong positive influence of these predictors on the bank's profitability.

Unique Contribution to Theory, Practice and Policy: The study recommended that Equity Bank Rwanda regularly adjust interest rates based on market trends, introduce tiered rates for varying risk profiles, and update loan policies to align with market demands and regulatory changes. For future research, academics should explore the impact of interest rates, lending rules, loan sizes, and loan terms on loan delinquency and profitability.

Keywords: *Interest Rate, Loan Delinquency, Loan Duration, Loan Policy, Loan Size, Profitability*

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INTRODUCTION

Banks play a significant role in the economic ecosystem by acting as intermediaries between borrowers and lenders, thereby facilitating the availability of credit necessary for growth and development (Guja, 2022). Globally, loan delinquency has emerged as a significant issue that hampers this process. In Japan, for instance, loan delinquency rates have led to considerable financial distress, impeding recovery efforts in a once-thriving economy. Non-performing loans have created a negative ripple effect that has affected consumer confidence and investment, ultimately slowing economic progress (Wray & Nersisyan, 2021).

In the United States, the rise in delinquent loans has become a significant concern, closely tied to various financial crises that have historically disrupted the banking sector. Such disturbances often trigger a ripple effect, leading to widespread economic consequences for consumers and businesses alike (Recck, 2023). Meanwhile, Sweden is facing similar challenges; the country has seen a noticeable increase in loan delinquency rates which has unsettled the banking landscape. This trend not only raises alarms among financial institutions but also heightens apprehension among investors and consumers who fear the potential for economic instability and reduced access to credit (Dimri, 2023).

In Africa, economic development faces numerous challenges, including inadequate infrastructure, high unemployment, and political instability, which affect various nations across the continent. These issues hinder overall growth and create barriers to investment, causing concerns for both local and foreign businesses (Odeyemi *et al.*, 2024).

In Somalia, loan delinquency is a big problem, especially for small and medium enterprises (SMEs) in Mogadishu. Financial institutions, like banks and microfinance organizations, often struggle to recover loans, which hurts their profits. Factors like the borrower's gender, age, income, and experience play an important role in whether they can repay loans on time. Since SMEs usually don’t have the same financial strength as larger companies, they face more challenges when seeking loans, leading to higher rates of delinquency. This ongoing issue not only affects the cash flow of banks but also poses a risk to the overall economy (Abdi *et al.*, 2023).

In Kenya, the situation is similarly complex, with loan delinquency emerging as a significant concern for commercial banks. The rise in non-performing loans poses risks to the banking sector, creating a strained financial environment that limits access to credit for households and businesses. Consequently, this restricts economic growth and innovation, as individuals struggle to secure the financing necessary for entrepreneurship and expansion. Addressing these problems is vital for enhancing the stability of banks and fostering an environment conducive to sustainable economic development in the country (Masila, 2021).

In Rwanda, loan delinquency is a significant problem affecting several financial sectors. The Vision 2020 Umurenge Programme (VU)P was created to support vulnerable people in the country and help reduce poverty. However, it has struggled with poor loan repayment rates. Many people who received loans through VUP find it hard to pay them back, often because of high-interest rates and a lack of financial education. This makes it difficult for them to manage their loans effectively (Karangwa, 2021).

Problem Statement

Loans are a significant element of banks' balance sheets, and any alteration in their composition impacts the whole structure (Corbae & D’Erasmo, 2021). Banks have difficulties with financial performance and the risk of loss due to loan delinquencies. Due to a drop in customer deposits and loan advances, banks' profitability suffers when loan default rates are high (Al-Thiban & Tayachi, 2021).

Despite the ongoing efforts to improve credit risk management and implement stringent lending policies, commercial banks have experienced increased loan defaults due to various factors, such as high-interest rates stemming from economic fluctuations and borrowers' inability to manage their finances effectively in Rwanda. In the case of Equity Bank Rwanda, there has been a consistent decrease in the return on assets (ROA) from 2018 to 2021, with the ROA at 2.56% in 2018 and slightly lower at 2.71% in 2021. Additionally, the return on equity (ROE) for the bank has also declined over the same period, with the ROE recorded at 22.05% in 2019 and dropping to 18.99% in 2021 (Uwiduhaye, 2022).

The Rwandan banking sector is in good progress, as shown by the current level of non-performing loans. A rising proportion of these loans indicates that Rwandan banks are having trouble collecting principal and interest on their credits, which might reduce their earnings and even force them to close their doors. To calculate the proportion of non-performing loans to total gross loans, financial institutions divide the value of non-performing loans by the value of their whole loan portfolio. This value includes non-performing loans prior to the reduction of individual loan-loss provisions. The whole value of the loan, not only the amount that is past due, should be represented as nonperforming on the balance sheet (Mwangi, 2020).

The concepts of non-performing loans or loan delinquency had been studied by several authors across the world as well as in East Africa including Rwanda with shortage papers. The factors that previous research focused on were really indicators of the overall financial health of commercial banks and similar organizations. They did not place emphasis on profitability. On one hand, some studies focused on the customers' perspective, while on the other hand, others considered the viewpoint of bank managers. This study brings a specific approach as it seeks to data whereby primary data extracted from the employees who can comprehend the concepts of loan delinquencies within the period of five years.

Objectives of the Study

General Objective

The general objective of the study was to examine the effect of loan delinquency on the profitability of equity bank in Rwanda

Specific Objectives

The specific objectives of the study were:

i. To examine how interest rate affects profitability of Equity bank in Rwanda.
ii. To examine the effect of loan policy on profitability of Equity bank in Rwanda.
iii. To examine how loan size affects profitability of Equity bank in Rwanda.
iv. To assess the effect of loan duration on profitability of Equity bank in Rwanda.

Research Hypotheses

The research hypotheses that guided this study are the following:

Ho_1: There is no significant effect of interest rate on profitability of Equity bank in Rwanda.

Ho_2: There is no significant effect of loan policy on profitability of Equity bank in Rwanda.

Ho_3: There is no significant effect of loan size on profitability of Equity bank in Rwanda.

Ho_4: There is no significant effect of loan duration on profitability of Equity bank in Rwanda.

LITERATURE REVIEW

Theoretical review

This study is grounded in three theoretical frameworks: Credit Risk Theory, Financial Intermediation Theory, and Agency Theory. Collectively, these theories provide a comprehensive foundation for understanding the dynamics between loan delinquency and bank profitability. They offer insights into the risks associated with lending, the intermediary role of banks in managing funds and credit, and the governance challenges that may arise between stakeholders within financial institutions.

Credit Risk Theory

The primary concern of Edward's Credit Risk Theory, which he established in the 1960s, is the likelihood that borrowers would not be able to repay their debts. This theory is vital for banks and financial institutions, as it helps them understand and manage the risks associated with lending money. When banks give loans, they face the risk that borrowers might default—meaning they cannot make their payments on time or at all. Such defaults can lead to significant financial losses for banks (Kadima *et al.*, 2023).

Banks may reduce their exposure to these risks by checking the credit of loan applicants. A borrower's income, work position, credit history, and general economic circumstances are some of the aspects taken into account in this evaluation. The likelihood of a borrower repaying a loan and the interest rate that should be established by the bank are both affected by these factors. To account for the increased risk, borrowers with an increased likelihood to default may be subject to higher interest rates (Naili & Lahrichi, 2022).

Additionally, the ongoing monitoring of existing loans is crucial in managing credit risk. If a borrower begins to show signs of financial trouble, such as late payments, banks can take early action to mitigate losses. Strategies might include restructuring the loan terms or offering hardship assistance (Kadima *et al.*, 2023). Moreover, Credit Risk Theory indicates that banks should maintain sufficient reserves to cover potential loan losses. This ensures that they can absorb some level of default without threatening their financial stability. As economic conditions change, banks may need to adjust their credit policies to respond to rising risks (Çollaku & Aliu, 2021).

This theory is used to assess how effective risk management and borrower evaluation practices influence the profitability of banks in the context of loan delinquency. This theory emphasizes the importance of identifying, measuring, and managing credit risk within lending institutions. In the context of this study, the theory is applied to examine how banks' internal credit policies, loan monitoring practices, and risk mitigation strategies affect their financial outcomes.

Financial Intermediation Theory

Financial Intermediation Theory, explained by economist Benjamin Friedman in the early 1980s, centers on the crucial role banks play in the economy by connecting savers and borrowers. Banks act as intermediaries by taking deposits from individuals or businesses that have extra cash and then lending this money to those who need loans. This process helps to ensure the efficient flow of money in the economy, promoting growth and investment (Michail, 2021).

Banks profit by charging interest on the loans they provide, which is generally higher than the interest they pay to depositors. This spread between the borrowing and lending rates is the primary source of income for banks. However, they must also manage risks involved in lending, particularly the risk of borrowers defaulting on their loans. If too many borrowers fail to repay their loans, the bank's profitability and stability could be threatened (Victor & Innocent, 2019). To maintain efficient financial intermediation, banks must implement sound lending practices. This includes thorough credit assessments to determine the likelihood of repayment and diversifying their loan portfolios to spread risk. By lending to different types of borrowers and industries, banks can reduce their exposure to any single economic downturn or sector (Michail, 2021).

Moreover, technological advancements, such as data analytics and online banking, have transformed financial intermediation by enabling banks to assess borrower risk more accurately and efficiently. As a result, banks can make better lending decisions and serve customers more effectively (Wood & Skinner, 2018).

This theory used to analyze the role of banks in facilitating loans and the impact of loan delinquency on their overall profitability and financial stability. In this study, the theory provides a lens through which to understand how delinquent loans compromise the banks' ability to function efficiently and fulfill their intermediary role.

Agency Theory

Agency Theory formalized by Michael and William (1976) deals with the relationship between those who own a company (shareholders) and those who manage it (managers). This theory examines the potential conflicts of interest that can arise when the goals of managers do not align with those of the shareholders. In simple terms, managers might make decisions that benefit themselves rather than the company, which can affect the company's profitability and overall performance (Lundberg, 2022).

This misalignment can lead to certain problems. For example, managers might pursue risky lending practices to boost short-term profits and their personal bonuses, even if these practices could harm the bank in the long run. Such decisions can increase the risk of loan defaults and, consequently, hurt the bank's financial health. Therefore, it is crucial for banks to implement effective governance structures to ensure that managers act in the best interest of shareholders (Marashdeh *et al.*, 2021). To address these agency problems, banks often establish performance-based incentives that reward managers for achieving long-term company goals rather than short-term gains. This alignment of interests encourages managers to make prudent lending choices and consider the bank's stability. Additionally, strong oversight mechanisms, such as audits and review committees, can help monitor management actions and ensure accountability (Lundberg, 2022).

Agency Theory highlights the importance of establishing clear incentives and governance practices to align the interests of managers and shareholders. By addressing potential conflicts, banks can create a culture of responsible decision-making that enhances profitability and promotes long-term sustainability in a competitive environment (Marashdeh *et al.*, 2021).

This theory used to explore how the alignment of incentives between bank managers and shareholders can mitigate the risks associated with loan delinquencies and enhance profitability.

Empirical Review

Arege (2023) studied how interest rates affected the profitability of Kenyan commercial banks, drawing attention to the crucial role that banks play in encouraging economic development via saving and investment. The study's foundation was agency theory, and it used a simple methodology to evaluate the connection between interest rates and profitability. There was a total of 43 commercial banks that were included part of the sample; these banks had to have been active for at least nine years, from 2013 to 2021. To ensure a complete response rate, a census sample strategy was used to include all 43 banks. The audited reports and financial statements of the banks were used as secondary sources to back up the study. Interest rate variations have a direct impact on financial performance, as the results showed a strong correlation between interest rates and bank profitability. These findings suggest that in order to maximize profits and encourage long-term development in the banking industry, managers should establish interest rates that are in line with the market.

Windsor *et al.* (2023) explored the impact of interest rates on bank profitability, with an emphasis on times of very low and negative interest rates. The investigation, which began in 2000 and continued until the end of 2019, made use of freshly acquired secret bank-level data from some 1,500 institutions across 10 financial systems. The empirical observation that banks' net interest margins are reduced when interest rates decline is verified by the data, however the effect is less apparent than in earlier research. There was a large amount of fluctuation among nations, but on average, short-term net interest margins fell by just 5 basis points for every 100 basis points when short-term interest rates were lowered. The research found that reduced interest rates had a bigger effect on net interest margins than on asset returns, thus banks might still be profitable even with low rates. Additionally, reduced interest rates correlated with lower provisions for loan losses, indicating that banks offset the drag from lower margins through enhanced cost efficiencies and streamlined operations.

A study conducted by López-Penabad *et al.* (2022) delves into the impacts of a negative interest rate policy (NIRP) on profitability and risk-taking in the European banking sector. The researchers specifically consider how these effects differ across different business models. This study used a static modeling strategy to examine data from 2,596 banks located in 29 different European nations between 2011 and 2019. A sample bank's net interest margins and return on assets are both reduced by 14.5 and 18.5 basis points, respectively, once NIRPs are implemented, according to the data. Furthermore, the research found that subsequent drops in short-term interest rates accelerate the fall in net interest margins in an already negative interest rate environment. Critically, the findings show that even when interest rates are negative, European banks do not expose themselves to more risk. There seems to be a complex link between monetary policy and banking outcomes across various operational frameworks, as the impacts of NIRP on risk and profitability in banks fluctuate greatly depending on the particular business models used.

Al-hawatmah and Shaban (2020) investigated the impact of commercial banks' Loan Policy on their profitability in Jordan. Using a descriptive analytical method, a specially designed questionnaire was employed to collect data from all thirteen operational commercial banks in Jordan between 2016 and 2020. The findings reveal that approximately 75.3% of the banks' returns come from their credit choices. Additionally, the analysis indicates that lending policies collectively have a statistically significant effect on the banks' profitability. Interestingly, while it is often believed that lenient lending policies can boost demand and profit, the stringent lending practices adopted by Jordanian banks accounted for 53.9% of their profitability. This suggests a unique market situation where conservative approaches lead to substantial returns. Based on these findings, the study recommends that Jordanian banks improve their credit policies by clearly defining roles and responsibilities within their organizations. Such measures would enhance decision-making efficiency, allowing banks to expand their customer base and ultimately increase profitability. Overall, this research highlights the importance of adapting lending strategies for sustainable financial success in the banking sector.

Islam (2023) investigated the influence of macroeconomic conditions on the profitability of commercial banks listed on the London Stock Exchange (LSE) between 2015 and 2019, taking into account the major role these banks play in the UK economy. The purpose of this research was to identify the relationships between GDP, real interest rate, inflation rate, unemployment rate, and exchange rate as well as other macroeconomic factors and profitability as assessed by ROA and ROE. The research, which used panel data from 23 banks listed on the London Stock Exchange, found that ROA and ROE were severely affected by the real GDP growth rate. On the other hand, profitability was unaffected by the other macroeconomic indices. The significance of sound management practices and strategic bank decisions in boosting financial performance is highlighted by these results, which imply that internal variables, rather than external economic situations, impact the profitability of UK banks.

Zakayo and Ondabu (2022) investigated the impacts of different lending strategies on profitability to better understand how lending policies impact the financial performance of Kenyan commercial banks. Mobile lending, group lending, collateral lending, and check-off lending were the four main methods examined. Using a descriptive survey study approach, it included 48 credit and lending department personnel from 12 commercial banks listed on the Nairobi Securities Exchange. The Central Bank of Kenya made available audited reports and financial records spanning 2017–2021, while primary data came from five-point Likert scale questionnaires (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree). In order to examine the data, descriptive and inferential statistics were used, along with statistical tools like SPSS and a multi-linear regression model. Based on the results, it's clear that these four lending tactics significantly boost bank profits. Notably, better financial results are associated with more use of any of these lending strategies. In order for Kenya's banking business to generate money and achieve entire financial success, it is crucial to have lending laws and procedures that are well-designed.

Baituti and Ngaba (2022) investigated the impact of loan size on nonperforming loans (NPLs) among banks listed on the Nairobi Securities Exchange in Kenya. Understanding loan size is critical, as it refers to the total amount lent to borrowers and can influence repayment behaviours. The research aimed to explore how varying loan sizes affect the rate of defaults in loan repayments, considering that larger loan amounts might lead to higher NPLs if borrowers struggle to meet their financial obligations. Employing a causal research approach grounded in relevant financial theories, the study analyzed data from all eleven banks operating on the exchange from 2012 to 2017. The analysis utilized panel regression methods, presenting findings through tables and charts. Although there was no statistically significant correlation between loan amount and nonperforming loans (NPLs), it recommended that banks carefully assess loan sizes to improve repayment rates, thereby enhancing financial stability and reducing risks associated with nonperforming loans.

Lamichhane (2022) investigated loan delinquency management within microfinance institutions (MFIs) in Nepal, with a particular focus on the impact of loan duration on delinquent loans. As non-performing loans are on the rise within the sector, the research aims to identify effective delinquency management strategies and their underlying causes. A review of relevant literature reveals that increasing loan duration contributes significantly to the problem of loan defaults. Key strategies identified to mitigate loan delinquency include strengthening governance in loan delivery processes, accurately identifying clients, and conducting thorough credit appraisals that consider the implications of loan duration. Additionally, ensuring borrower literacy, effectively monitoring overdue debts, and maintaining oversight of clients' financial conditions are essential for successful delinquency management. If effectively implemented, these strategies will enable MFIs to enhance the quality of their loan portfolios and reduce instances of loan delinquency. The study highlights that addressing loan duration and delinquency management can help MFIs achieve both social and financial goals, improving their overall sustainability and service delivery.

Singh *et al.* (2021) examined the effects of non-performing loans (NPLs) on Nepalese traditional banks, with a particular emphasis on the country's largest commercial banks. The data used in the study comes from the World Bank's databases pertaining to GDP and inflation, as well as the annual reports of the participating institutions. The data covers the period from 2015 to 2019. Multiple regression analysis is the analytical method that has been used for this inquiry. Here, nonperforming loans are the dependent variable, and the independent factors that help to explain their variance include things like capital adequacy ratio (CAR), bank size, GDP growth, inflation, and return on assets (ROA). Nonperforming loans are significantly impacted by return on assets (ROA), bank size, GDP growth, and inflation, but there is no significant association seen with CAR. Despite relatively constant income growth, this analysis reveals a positive and statistically significant relationship between GDP growth and nonperforming loans (NPLs), suggesting that as GDP grows, Nepalese banks are able to expand. Consequently, policymakers and lenders should consider GDP growth when making decisions regarding nonperforming loans to better manage credit risk and enhance financial stability.

Cui *et al.* (2021) examined the impact of negative environmental, social, and governance (ESG) occurrences on bank loan contracts, specifically focusing on loan duration for borrowers. Analyzing a sample of 2,001 publicly listed U.S. corporations from 2007 to 2016, the research found a significant increase in loan spreads and a decrease in the volume of loans issued, including shorter loan durations, following an ESG-related event. The sample included companies monitored by Rep Risk since its tracking began in January 2007. The findings indicate that ESG occurrences lead to heightened information asymmetry, particularly affecting younger enterprises' loan contracts, where loan duration is often less favourable. Further investigation into the timing of these events throughout the year reinforced the results, revealing that both monetary factors and non-monetary aspects such as loan duration, collateral requirements, covenant frequency, and lender structure are influenced by ESG events. This study contributes to the ongoing dialogue on the economic implications of ESG occurrences in bank contracts and informs public policy discussions regarding the role of banks in supporting a sustainable, low-carbon economic transition.

Researchers Nshimyimana and Nkurunziza (2023) studied how UMWALIMU SACCO's finances fared depending on loan terms and repayment protocols. A key focus was on the relationship between the savings and credit cooperative's financial health and the efficiency with which loan terms are managed. A total of 33 workers from the company were polled using a descriptive research strategy and regression analysis. Loan follow-up and recovery practices, as well as loan term, were shown to have a substantial impact on improving financial performance. Managing loan lengths correctly is crucial, as the data shows that UMWALIMU SACCO's financial performance increases by 0.361 percentage points for every unit increase in loan term. The regression findings further emphasized that implementing robust loan management practices can positively impact overall financial stability. The study recommends that credit committees take loan duration into account, along with other borrower-related factors, to optimize financial outcomes and support the cooperative's growth.

Bahati and Mulyungi (2021) examined the impact of loan duration on the development of smallholder maize farmers in Rwanda. Focusing on 93 selected farmers from a total of 120, the research utilized a descriptive statistics approach. Use of a stratified random sample method allowed for the collection of data via surveys, document analysis, and direct observation. The test-retest processes were used to guarantee that the instruments were valid and reliable. The statistical analysis was carried out using descriptive and inferential statistics, utilizing the Statistical Package for the Social Sciences (SPSS) version 21.0. The results showed that there was a strong relationship (r=0.894) between the length of the loan and the development of the farmers. In addition, at the 95% confidence level, the p-value of 0.018 showed that the length of the loan had a significant impact on the growth of smallholder maize farmers. The study concluded that organizations should aim to reduce loan duration to accelerate the growth of Rwandan smallholder maize farmers, ensuring timely access to funds for development.

All of the examined empirical research points to the complex web of relationships between different lending policies and commercial banks' bottom lines. Overall, these gaps highlight the importance of incorporating Equity Bank into future studies to generate localized insights that enhance the understanding of banking dynamics in Rwanda.

METHODOLOGY

This study used descriptive and correlational research design. Descriptive research design show how often different responses occur, the researcher would utilize descriptive statistics like frequency distributions. To further understand the data's variability and central tendency, researcher also computed the standard deviation and mean (average). Examining the relationships between the study's listed variables is the goal of the correlational research design. Finding the magnitude and direction of correlations while keeping the variables constant is what this implies. The study made use of statistical methods including regression and correlation analysis.

The population of this study was 175 people including Senior Management, Loan Officers, Risk Management Team, Financial Analysts, and Compliance and Regulatory Team of Equity Bank Rwanda. Scientists determined how large of a sample is needed to draw valid conclusions by using Slovin's Formula. To ensure that every person of the population has an equal chance of being selected, the research used basic random sampling to select 122 participants.

The researcher used document analysis and questionnaire to obtain data. Statistical and numerical representations of the results facilitated the researcher's work and offer the reader with a fuller view of the findings. This study used Statistical Product and Service Solutions (SPSS). Quantities were utilized to investigate respondents' perspectives on each variable, while a Pearson correlation was employed to assess the report's characteristics and their linkages.

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FINDINGS & DISCUSSIONS

Response Rates

A total of one hundred and twenty-two questionnaires were administered, one hundred and fifteen of which were completed and returned thus giving the research a very good response rate of 94.26%. This shows a high degree of offered interest and readiness of participants to corroborate the study. On the other hand, 7 questionnaires (5.74%), were either not returned or only partially completed, indicating the minority of the participants who could not or would not fully cooperate.

Inferential Statistics for Hypotheses Test

The purpose of inferential statistics is to draw conclusions from a statistical sample. Correlation analysis, hypothesis testing, confidence intervals, and regression analysis are all examples of tools used in inferential statistics.

Table 1: Correlations Analysis

		Interest Rate	Loan Policy	Loan Size	Loan Duration	Profitability
Interest Rate	Pearson Correlation	1	.581**	.670**	.522**	.763**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	115	115	115	115	115
Loan Policy	Pearson Correlation	.581**	1	.625**	.414**	.767**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	115	115	115	115	115
Loan Size	Pearson Correlation	.670**	.625**	1	.506**	.840**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	115	115	115	115	115
Loan Duration	Pearson Correlation	.522**	.414**	.506**	1	.605**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	115	115	115	115	115
Profitability	Pearson Correlation	.763**	.767**	.840**	.605**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	115	115	115	115	115

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

Table 1 presents the Pearson correlation analysis, which reveals significant positive relationships among the variables. The relationship between Interest Rate and Profitability is strong, with a correlation coefficient of 0.763, indicating a significant positive association at the 0.05 level (Sig. = 0.000). This indicates that higher interest rates are related to improved profitability. The findings align with Windsor *et al.* (2023), who explored the impact of interest rates on bank profitability and confirmed that interest rates play a crucial role in determining net interest margins. While the study observed fluctuations among countries, it emphasized that, even in the context of reduced rates, banks can remain profitable due to enhanced cost efficiencies. Both findings highlight the positive relationship between higher interest rates and profitability, as reflected in the correlation observed in this study.

A strong positive relationship exists between Loan Policy and Profitability (0.767), showing that favorable loan policies are associated with higher profitability, with statistical significance at the 0.05 level (Sig. = 0.000). The findings align with Al-hawatmah and Shaban (2020), who investigated the impact of loan policies on bank profitability in Jordan. Their study revealed that strict lending policies, while often perceived as restrictive, significantly contribute to profitability, with conservative approaches accounting for a substantial portion of returns. Both studies emphasize the importance of loan policy in driving profitability, illustrating that favorable or stringent policies can enhance financial performance through improved decision-making and strategic credit management.

The relationship between Loan Size and Profitability is very strong, with a correlation coefficient of 0.840, suggesting that larger loan sizes are linked to improved profitability. This relationship is statistically significant (Sig. = 0.000). The findings align with Lamichhane (2022), who explored the relationship between loan duration and loan delinquency within microfinance institutions in Nepal. While the study primarily focused on delinquency, it also underscores the importance of loan size and its management in improving profitability. Both studies highlight that managing loan terms and enhancing governance structures can significantly impact financial outcomes, supporting the notion that larger loan sizes, when effectively managed, contribute to higher profitability and reduced loan defaults.

Loan Duration also demonstrates a positive relationship with Profitability (0.605), indicating that longer loan durations are related to higher profitability, with statistical significance at the 0.05 level (Sig. = 0.000). The findings align with Nshimyimana and Nkurunziza (2023), who examined the impact of loan term management on the financial performance of Umwalimu SACCO. Their study emphasized that longer loan terms significantly contribute to better financial performance. Both studies suggest that proper loan duration management is vital for enhancing profitability, particularly by improving recovery practices and adjusting loan terms to match borrower needs.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923[a]	.853	.847	.10612

a. Predictors: (Constant), Loan Duration, Loan Policy, Interest Rate, Loan Size

Table 2 presents the results of the regression analysis, revealing a very strong positive correlation between the predictors (Loan Duration, Loan Policy, Interest Rate, and Loan Size) and the dependent variable, profitability of Equity Bank, Rwanda, with an R value of 0.923. The R Square value of 0.853 indicates that these predictors explain 85.3% of the variation in profitability. This high R Square value demonstrates the significant influence of the predictors on the model's ability to explain profitability outcomes.

The findings align with Recck (2023) who highlighted the significant impact of delinquent loans on the financial health of banks, noting how such issues can exacerbate financial crises and lead to widespread economic consequences. Similarly, the regression analysis in the current study shows that the predictors Loan Duration, Loan Policy, Interest Rate, and Loan Size explain a substantial portion of the variation in profitability at Equity Bank Rwanda. Both studies show the importance of effectively managing loans to mitigate potential financial instability and optimize profitability outcomes.

Table 3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.168	4	1.792	159.134	.000[b]
	Residual	1.239	110	.011		
	Total	**8.407**	**114**			

a. Dependent Variable: Profitability
b. Predictors: (Constant), Loan Duration, Loan Policy, Interest Rate, Loan Size

Table 3 presents the ANOVA results for the regression model, with Loan Duration, Loan Policy, Interest Rate, and Loan Size as predictors for profitability at Equity Bank, Rwanda. The regression model is significant, indicated by a high F-value of 159.134 and a p-value of .000, less than the 0.05 alpha level. These results confirm that the predictors have a significant effect on profitability.

The findings align with Abdi *et al.* (2023) who discussed the significant challenges financial institutions face in Somalia, particularly related to loan delinquency among SMEs. Similarly, the regression analysis in this study demonstrates that Loan Duration, Loan Policy, Interest Rate, and Loan Size significantly influence the profitability of Equity Bank Rwanda. Both studies highlight the critical role of effective loan management in mitigating financial risks and ensuring profitability, emphasizing that delinquency issues can adversely affect financial institutions' cash flow and stability.

Table 4: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.090	.180		.499	.619
	Interest Rate	.197	.047	.223	4.205	.000
	Loan Policy	.267	.042	.313	6.389	.000
	Loan Size	.388	.050	.421	7.709	.000
	Loan Duration	.135	.041	.146	3.282	.001

a. Dependent Variable: Profitability

Table 4 presents the regression results for the variables influencing profitability at Equity Bank, Rwanda. The constant term ($\alpha = 0.090$) represents the expected profitability when all independent variables (Interest Rate, Loan Policy, Loan Size, Loan Duration) are zero.

For Interest Rate, the unstandardized coefficient (B = 0.197, t = 4.205, p-value = 0.000) indicates that a one-unit increase in Interest Rate results in a 0.197 increase in profitability.

The findings align with López-Penabad *et al.* (2022) who explored the effects of interest rate policies on banking profitability, specifically the negative interest rate environment in Europe. Similar to the regression results from this study, which show a positive association between interest rates and profitability, López-Penabad *et al.* (2022) found that interest rate fluctuations significantly impact profitability, although the effects differ across different banking models. Both studies underline the importance of interest rates as a key determinant of financial outcomes for banks, with changes influencing net interest margins and overall profitability.

For Loan Policy, the unstandardized coefficient (B = 0.267, t = 6.389, p-value = 0.000) shows that a one-unit increase in Loan Policy leads to a 0.267 increase in profitability. The findings align with Zakayo and Ondabu (2022), who investigated the impact of lending strategies on the profitability of Kenyan banks. Their study revealed that well-designed loan policies, including mobile lending, group lending, collateral lending, and check-off lending, significantly improve financial performance. Similarly, the current research, focusing on the relationship between Loan Policy and profitability at Equity Bank, Rwanda, shows that a one-unit increase in Loan Policy leads to a direct increase in profitability, further validating the importance of robust lending strategies in boosting bank profits.

For Loan Size, the unstandardized coefficient (B = 0.388, t = 7.709, p-value = 0.000) reveals that a one-unit increase in Loan Size results in a 0.388 increase in profitability. The findings align with Singh *et al.* (2021) who examined the effects of bank size and economic factors on non-performing loans (NPLs) in Nepal. Their study revealed that factors such as bank size and GDP growth significantly influence financial stability. Similarly, the current study shows a positive relationship between Loan Size and profitability at Equity Bank, Rwanda, where a one-unit increase in Loan Size results in a significant increase in profitability, further emphasizing the role of larger loans in driving financial performance.

For Loan Duration, the unstandardized coefficient (B = 0.135, t = 3.282, p-value = 0.001) demonstrates that a one-unit increase in Loan Duration corresponds to a 0.135 increase in profitability. The findings align with Bahati and Mulyungi (2021), who examined the impact of loan duration on the development of smallholder maize farmers in Rwanda. Their study revealed a strong positive relationship between loan duration and farmer development. Similarly, the current study indicates that Loan Duration has a positive impact on profitability, where a one-unit increase in Loan Duration results in a corresponding increase in profitability, underlining the significance of loan terms in financial outcomes.

All predictor variables show significant positive relationships with profitability, as their p-values are below the standard significance level of 0.05.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The primary focus of this study was to investigate the effect of loan delinquency on the profitability of commercial banks in Rwanda, specifically examining the impact of various loan-related factors on the financial performance of Equity Bank Rwanda. The research particularly examined the effects of interest rate, loan policy, loan size, and loan duration on the bank’s profitability. The findings indicated that a significant number of respondents recognized these factors as critical in influencing the bank's financial outcomes.

Respondents expressed strong agreement that interest rate plays a crucial role in determining the profitability of Equity Bank Rwanda. They emphasized that an optimal interest rate not only enhances revenue generation but also ensures competitiveness in the market, ultimately improving the bank’s profitability.

Findings regarding the effect of loan policy were similarly positive, with respondents acknowledging that a well-structured loan policy significantly contributed to the bank’s financial success. They noted that clear and strategic loan policies helped minimize risks and enhanced the efficiency of loan recovery, which positively impacted profitability.

Loan size also emerged as another critical factor, with respondents indicating that the bank's approach to adjusting loan sizes based on customer capacity was essential in maintaining a balanced risk-reward ratio. Many highlighted that a well-managed loan portfolio, in terms of loan size, contributed to higher profitability by ensuring that the bank catered to customers' diverse needs while minimizing default risks.

Lastly, loan duration was identified as an important element in determining profitability, with respondents agreeing that offering flexible loan durations to customers based on their financial capacity helped in boosting repayment rates and reducing delinquency. They emphasized that this strategy not only promoted customer satisfaction but also had a positive effect on the bank's financial performance.

The findings led to the rejection of the null hypothesis concerning the impact of loan delinquency on the profitability of Equity Bank Rwanda. The results demonstrated a strong positive relationship between the factors under study (interest rate, loan policy, loan size, and loan duration) and the bank's profitability, leading to the rejection of the hypothesis related to the individual factors and confirming their significant influence on the financial performance of the bank.

Recommendations

Equity Bank Rwanda should conduct regular market analyses to adjust interest rates in line with industry trends, ensuring they remain competitive while maintaining profitability. The bank should introduce tiered interest rates based on customer risk profiles to optimize revenue from both high-risk and low-risk borrowers.

Equity Bank Rwanda should regularly review and update loan policies to ensure they are aligned with market demands and regulatory changes. The bank should develop clearer and more transparent loan terms, emphasizing risk management to reduce defaults and enhance loan portfolio profitability.

Equity Bank Rwanda should utilize data analytics to accurately assess customer profiles, ensuring loan sizes align with borrowers' repayment abilities. The bank should monitor large loans more closely to mitigate risk exposure and prevent adverse effects on profitability.

Equity Bank Rwanda should offer flexible loan durations to accommodate borrowers' financial situations, reducing delinquency and improving repayment rates. The bank should enhance communication regarding loan durations, offering clear and transparent repayment schedules to foster customer trust and improve profitability.

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