



# The Effect of Internal Control Systems on the Financial Performance of Commercial Banks in Rwanda

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**Abstract:** Internal control systems play an important role in any organization as they help achieve financial performance goals. Internal controls minimize risk, protect assets, ensure record accuracy, increase operational efficiency, and facilitate compliance with policies, rules, regulations, and laws. The main purpose of the study was to investigate the impact of the internal control system on the financial performance of commercial banks in Rwanda. The study was guided by the following goals and purposes; to investigate the relationship between the internal control environment on the Financial Performance of Commercial Banks in Rwanda and to establish the effect of risk management on the Financial Performance of Commercial Banks in Rwanda. Most commercial banks in Rwanda have been poorly performing in recent years due to weak internal control systems, records management, financial reporting, and regulatory compliance. In this study, we adopted a system theory and agency theory. The study adopted a descriptive research design using both quantitative and qualitative approaches. The study adopted a target population of 96 and multi-level random sampling of 38 Senior Managers in various categories. Survey data was collected using a structured questionnaire. The data obtained were analyzed using both qualitative and quantitative analysis. Multiple regression models were used to test whether the internal control environment and risk management have an influence on the Financial Performance of Commercial Banks in Rwanda. It was found that an internal control system had a significant relationship with Financial Performance. Based on the research findings, it can be concluded that an internal control system is a significant positive predictor of Financial Performance. The results of the study suggest that internal control systems, especially risk management and control environment, are important areas where commercial banks should pay close attention to improving Rwanda's financial performance. The results are valuable to commercial bank investors and are expected to provide the basis for improving the financial performance of commercial banks. Management also needs to ensure that the organization has a strong internal control environment in which internal control activities properly inform policies and procedures. Managers need to maximize the economic benefits of internal control by using corporate risk management and good corporate governance.

**Keywords:** Internal Control Systems, Financial Performance, Commercial Banks, Rwanda

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## 1. Introduction

Internal controls are a company-wide system of policies and procedures that provide some assurance that the company is operating effectively, and that all applicable laws and reporting processes are sound [1]. For large multinational corporations, the system of internal controls could involve dozens of layers of interconnecting controls that range from corporate ethics manual down to an input control in a database that makes sure the product identification number entered in the inventory system is valid.

From a global perspective, a global financial crisis highlighted the importance of a well-functioning and healthy banking sector for macro-stability [2]. One of the main reasons for banking failures is a poor risk management system, which results in significant financial loss and even bankruptcy for financial institutions across the globe. The lack of an internal control system to keep the risks under control or major breakdowns within an existing internal control system poses a threat to the success of the banking sector [3]. The ambiguity of the Control requirements is inevitable given China's background. China's institutional

environment is considered relatively weak, lacking stringent enforcement [4]. Robust internal control systems and periodic audits are essential to preventing fraud when running a company in China [5].

From a regional perspective, the impact of internal controls on the financial performance of Kenyan manufacturers showed that manufacturers who invested in effective internal control systems showed better financial performance compared to manufacturers with weak internal controls. Was found [6]. In Kenya, weak internal control activities and lack of adequate information and communication systems fuel fraud, loss of income, and misappropriation of collected income among local governments [7].

From national a perspective, the Rwandan government started to recognize the importance of the internal audit function, the reason why the Ministerial Order N°002/09/10/GP/A of 12/02/2009 set out rules and regulations for internal controls. The internal audit, which is the integral component of internal controls was identified as one of the key players in promoting corporate governance. Strong internal controls are one of the best defenses against business failure and are a major driver of business performance. Internal controls help organizations achieve their goals by assessing and improving the effectiveness of risk management processes and thereby putting together a systematic and disciplined approach to driving financial performance [8]. The research focused on internal controls as a tool for mitigating risk management to promote financial performance in commercial banks in Rwanda.

### **1.1. Statement of the Problem**

Financial scandals have been witnessed around the world, driving reactions to tighter regulations, and improved accounting and corporate governance standards. In the United States, scandals such as World.com and Enron enacted the Sarbanes-Oxley Act (2002) in 2002 on corporate and auditing, accountability, and liability. These major financial scandals were triggered by an inadequate internal control system, including weak corporate governance that the 2002 Servens-Oxley Act sought to address. The Enron scandal, a major publicly traded company, has shown to US citizens and Congressional representatives that new compliance standards for public accounting and auditing are urgently needed. Enron is one of the largest companies and is one of the most economically healthy companies in the United States.

In Rwanda, the microfinance sector has grown tremendously in recent years and the number of players has now grown to nearly 100 MFI. However, growth is threatened by the rate of increase in non-performing loans (non-performing loans to be dealt with). According to this survey, the collateral registration fee to the Rwanda Development Board (RDB) is up to 20,000 Rwanda, and the contract notification fee is 1,500 frw on each side, which is hitting commercial banks. According to the report, the situation is exacerbated by the limited number of commercial courts dealing with non-performing loan cases and the legal

costs of 50,000 frw paid for defaulting small loans. In addition, many commercial banks went bankrupt due to high levels of non-performing loans (BNR, Financial Stability Report 2008). Initially, the banking sector, especially commercial banks in Rwanda, faced many problems, including the commercial banking sector. Due to the highly leveraged nature of banks, good banking performance and stability are at the heart of the trust of the banking system. Financial problems of individual banks can have a significant impact on the entire financial system. BPR represented 46% losses of shares capital for the annual financial report, 2009, 2012, and 2013. While BCR made losses worth 55% in 2012, or the whole financial system. BPR represented 46% losses of shares capital for the annual financial report, 2009, 2012, and 2013. While BCR made losses worth 55% in 2012.

Banks in Rwandan are facing intensifying competition and rising costs due to regulatory requirements, financial and innovation, the entry of major foreign banks into retail banking, and the challenges of the recent financial crisis. In the Rwandan economy, studies related to internal control systems and financial performance do not directly show the impact of corporate governance and government policies on the financial performance of commercial banks [9]. Therefore, this study focused on a wide range of commercial banks seeking to fill existing research gaps in determining the impact of internal control systems on the financial performance of commercial banks in Rwanda.

### **1.2. Objectives of the Study**

The general objective of this study was to the determine effect of Internal Control Systems on the Financial Performance of Commercial Banks in Rwanda.

### **1.3. Specific Objectives**

The specific objectives of the study were:

1. To establish the effect of the Internal Control Environment on the Financial Performance of Commercial Banks in Rwanda.
2. To determine the effect of Risk Management on the Financial Performance of Commercial Banks in Rwanda.

### **1.4. The Research Hypotheses**

The research hypotheses of the study were:

1. H0: There is no relationship between the Internal Control Environment on the Financial Performance of Commercial Banks in Rwanda.
2. H0: There is no relationship between Risk Management Control on the Financial Performance of Commercial Banks in Rwanda.

## **2. Theory**

### **2.1. Systems Theories**

Systems theory is based on the belief that individuals do

not act in isolation but grow and develop in interaction with their physical and social environment [10]. Systems theory derives from general systems theory, which studies the parts of a system that is interconnected and interact to form the complete whole. Within social work, systems can represent individuals, couples, families, communities, organizations, societies, and the world. In system theory, a system should be seen as consisting of multiple elements that make the entire system work, and each system should be seen as a separate system that can generate changes or responses within the main system. For example, when working with a client, social workers address the client's biological and psychological and social aspects by addressing the client's physical and psychological functions, social relationships, and the community or social structure that affects the client [11].

The life model of social work practice is strongly influenced by system theory and the perspective of the human environment [12]. Both target where individuals interact with the environment and the capabilities of social work. We are exploring whether it is a unique field. Such system theories move the practice of social work away from the exclusive focus on individuals such as developmental theory, psychological theory, behavioral theory, and instead individuals within the environment (often referred to as human behavior). Environmental considerations include physical space, social background, personal culture, and history. The goal of system theory is to create homeostasis, a favorable adaptation of an individual's environment, through individual interaction and reaction to the environment. There, interactions, and changes contribute to the growth, development, and social functioning [13]. The family system theory has adapted the main concepts of general system theory to the understanding and functioning of the family. The family is considering a system in which each family plays an important role. The family system theory believes that changes in one part of the family system-cause changes in other parts of the family system, often based on family boundaries, family patterns, messages, and rules. And the family's reaction to change. Systems theory is useful for practicing social work because it provides a theoretical basis for a comprehensive assessment of the client by examining all the systems in the client's environment [14]. Such Theories are mainly used in the evaluation and intervention stages of social work practices. Social workers comprehensively evaluate clients according to their psychological, biological, and social functions, especially their interaction with other systems in the environment. Anything that can contribute to such a theoretical problem. Based on system theory-based assessments, social workers determine which systems require intervention. Clients can be individuals, but social workers can see families, communities, and even the political system as the focus of intervention. The most used interventions in social work practices include, couple and family therapy, family systems therapy, community development, and community practices [15]. Therefore, this theory is very relevant to this study, as

shareholders who own listed companies delegate the day-to-day operations of the company to management on their behalf and therefore have strong internal controls. Very necessary. Management system, the interests of shareholders and other interest groups are properly protected [16]. Therefore, this theory supports the existence of a controlled environment, internal audit, and risk management.

## 2.2. Agency Theory

Office Theory Agency hypothesis has been broadly utilized in writing to examine the data asymmetry between principals (shareholders) and operators (administration). This considers used the organization hypothesis to decide the impact of inside control frameworks on the money related execution of cited companies within the Nairobi securities exchange [17], expressing that concurring to the office hypothesis, a company consists of a set of connected contracts between the proprietors of financial assets (the principals) and directors (the operators) who are charged with utilizing and controlling these resources.

A significant body of work has been undertaken in this area within the context of the principal-agent framework. Agency theory identifies the agency relationship where one party, the principal, delegates work to another party, the agent. Argues that agency theory also provides a useful theoretical framework for the study of the internal auditing function [18]. Proposes that office hypothesis not as it was making a difference to clarify and foresee the presence of inner review but that it too makes a difference to clarify the part and duties allotted to inner reviewers by the organization, which office hypothesis predicts how the inside review work is likely to be influenced by organizational change. Concludes that agency theory provides a basis for rich research that can benefit both the academic community and the internal auditing profession.

Organization hypothesis is utilized to get it the connections between operators and principals [19]. This leads to the principal-agent issue. The principal-agent issue happens when the interface of a central and operator come into struggle. Companies ought to look for to play down these circumstances through strong corporate arrangement. The office relationship can have a few drawbacks relating to the advantage or self-interest of the operator: For illustration, the agent may not act within the best interface of the principal, or the operator may act as it was somewhat within the best interface of the principal. There can be a few measurements to this counting, for illustration, the specialist abusing their control for monetary or another advantage, or the operator not taking suitable dangers in compatibility of the principal's interface since the specialist sees those dangers as not being suitable whereas on the other hand, the vital may have distinctive states of mind to dangers [20]. There is more over the issue of data asymmetry whereby the vital and the specialist have gotten two distinctive levels of data; in one, this implies that the vital is at an impediment since the specialist has more data. The hypothesis was hence exceptionally significant in this think about as shareholders

who are the proprietors of the cited companies have designated the duties of the day by day running of the companies to the administration who acts as their operators and subsequently the extraordinary require for solid inner control frameworks to guarantee shareholders and other stakeholder's interface are enough defended [21]. The hypothesis, hence, bolsters the presence of a controlled environment, inner review, and chance administration. The office hypothesis offers an arrangement to issues emerging where there's a clash of the interface between a central and a specialist. It is that as it may require that one party concedes to the other. Keep perusing to memorize more almost the organization hypothesis and how it applies in trade.

### 3. Methodology

#### 3.1. Research Design

Investigate arrange may be a direct or examine organize utilized to answer ask around questions and explore targets. A structure or framework for handling a particular issue. It sets the course and systematizes the consider. This implies to the strategy that an examiner takes after from the beginning to the conclusion of a consider [22]. Investigate plan is the definition and clarification of a common ask approximately approach or wander procedure. Ordinarily, the heart of the organize. In case the arrange meets the explore targets, it ensures that the customer's needs are met. Interfaces are palatable, protected [23]. The speculation subsequently supports the nearness of a controlled environment, an internal survey, and chance organization. The office theory offers a course of action to issues arising where there is a clash of interface between a central and a pro. It is that because it may require that one party concedes to the other. Keep examining to memorize more around the organization theory and how it applies in exchange. Keep scrutinizing to memorize more. A survey research plan could be a preparing of collecting data from a test of individuals who have been chosen to speak to a characterized target populace. In study inquire about a plan, an analyst collects data that depicts, investigates, and evaluates social wonders, especially issues, conditions, and issues that are predominant in society at a specific point in time [24]. The consider collected data relating to inner control frameworks and the money-related execution of

commercial banks in Rwanda.

#### 3.2. Population

A population is an entire group of individuals, events, or objects having a common observable characteristic. In other words, the population is the aggregate of all that conforms to a given specification. The population is the entire group of objects of interest from whom the researcher seeks to obtain the relevant information for the study [25]. They contend that a population of study should possess a characteristic that meets a researcher's study interests. The population of this study focused on the list of commercial banks in Rwanda.

#### 3.3. Sampling Frame

The sampling frame comprises a comprehensive list of all the sampling units from which a sample could be selected. An inspecting outline is required to characterize the universe (populace). The frame (data sources) could be a list of households, establishments, and industries with detailed addresses, products produced and/or consumption, expenditure, revenue data, and so on [26].

#### 3.4. Sample Size and Sampling Technique

Sampling may be defined as the selection of parts of an aggregate or totality based on which a judgment or inference about the aggregate or totality is made [27]. This is the process of examining only part of the population and getting information about the entire population. Samples are often used in inference statistics to make predictions about population behavior. By using sampling techniques, researchers are assured that the characteristics of the population within the sample will be accurately reproduced [28]. The study used a stratified random sampling technique since the population was not homogeneous and could be subdivided into groups or strata to obtain a representative sample. Stratified random sampling involves dividing the population into homogeneous subgroups and then taking a simple random sample in each subgroup making it possible to make reliable estimates for each stratum as well as for the population as a whole [29]. Stratified sampling will be employed whereby the following procedure was followed:

Table 1. Target Population.

Sn	Names of Commercial Banks	Population	Sample Size
1	Access Bank Rwanda	13	4
2	Bank of Kigali	12	6
3	Commercial Bank of Rwanda	12	3
4	Banque Populaire du Rwanda SA (BPR)	12	5
5	Compagnie Générale de Banque (Cogebanque)	11	3
6	Ecobank	9	3
7	Equity Bank	11	3
8	Fina Bank	9	4
9	Banque de l'Habitat du Rwanda	6	3
10	Kenya Commercial Bank	6	4
	Total	96	38

$n = (z^2 PQ)/d$  was applied. This is in line with a statistical

technique for selecting a sample from a population of less

than ten thousand. The model is derived as follows:

$$n = (z^2 PQ)/d$$

Where:

n = is the desired sample size when the target population is > 10,000.

z = standardized normal deviations at a confidence level of 95% which is 1.96.

p = the proportion in the target population that assumes the characteristics being sought.

In this study, a 50:50 basis is assumed which is a probability of 50% (0.5).

q = The balance from p to add up to 100%. That is 1-P, which in this case will be 1- 50% (0.5).

d = Significance level of the measure, that is at 90% confidence level the significance level is 0.1. Using the above formulae, the number of companies to be sampled was calculated as below.

$$n = (1.962 \times 0.5 \times 0.5) / (0.1)^2 = 96$$

The target population in this study is less than 10,000, thus the sample of 96 was adjusted using the formula:

$$nf = n / (1 + n/N)$$

where nf is the desired sample size when the sample size is less than 10,000, and n is the sample size when the target population is more than 10,000. N is the target population size.

$$nf = n / (1 + n/N) = 96 / (1 + 96/62) = 38$$

Using the above formula, we reduced the number of commercial banks to be audited to 38 and then selected them from the hierarchy using a targeted sampling technique. By splitting the enterprises in each tier, the number of sampled enterprises in each tier was calculated as above. Of the 38 commercial banks expected to be sampled, this study found six key senior executives at each commercial bank leading various key departments / functions: Chief Executive Officer, Financial Officer, Audit, and Risk. Responsible person, human resources, IT person, legal person. The interest of this

segment of the population is that the managers in this category are the main managers and owners of the internal control system and most importantly, they have excellent knowledge and expertise in the operation of the company's internal control system.

### 3.5. Data Collection Instrument

Both primary and secondary data were collected in this study. Primary data collected with a structured questionnaire consisting of two parts. The first part gathered information about the respondents' demographics, and the second part consisted of questions focused on the variables of the survey. Structured questions were used to save time and money and facilitate the analysis of the data. The questionnaire also included unstructured questions to encourage respondents to provide detailed and emotional answers without being shy about disclosing information.

## 4. Data Processing and Analysis

*Table 2. Distribution of Respondents by Age.*

Age	Frequency	Percent
20 -30yrs	15	24
31-40 yrs	13	21
41-50 yrs	12	19
51-60 yrs	13	21
Over 60 yrs	9	15
Total	62	100

The findings above indicate that majority of the respondents in the region were of the age-group 20 -30 years (24%) while the least age group was above 60 years (15%), the age group between 31-40 years were (22.2%), while 21% and 19% were of the age group 41-50 and 51-60 years, respectively. This shows that the sample used by the study (3%) was distributed in terms of age and could therefore give reliable information. It also attributes that (24%) of the respondents were between 20 and 30 years, which is usually the productive age group hence improved organizational performance. Furthermore, the researcher attributed this trend to the fact that most people in the training retire before they reach 65yrs.

*Table 3. Respondents' Opinion on Internal Control Environment.*

Respondents' opinion	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
Management analyses the risks and potential benefits of a venture before making a decision	50	40	5	3	2
Management has mechanisms to anticipate, identify and react to events that affect achieving company objectives	45	40	10	2	3
Turnover of key personnel is relatively low	40	35	15	3	2
Management and Operating decisions are not dominated by a few individuals	35	40	16	4	5
The organizational structure appropriate for the size and complexity of the entity	30	40	20	5	5
There is clear assignment of responsibility and delegation of authority	30	45	15	5	5

### 4.1. Descriptive Analysis for Internal Control Environment

The study sought to investigate if the Management analyses the risks and potential benefits of a venture

before deciding, the result as shown in table 3, indicated that the majority (50%) of the respondents strongly agreed that the company's Management analyzes the risks, 40% agreed, 5% were neutral while an equal 5% of the respondents disagreed and strongly disagreed with the

statement, respectively. Based on the above statement, as indicated by most respondents 90% (strongly agreed and agreed) that Threat analysis is a proven way of relating and assessing factors that could negatively affect the success of a business or design.

Further on the opinion about whether the Management has mechanisms to anticipate, identify, and react to events that affect achieving company objectives, most of the respondents (45%) agreed that the Management has mechanisms to achieve company objectives, 40% strongly agreed while 10% were neutral. Only 3% and 2% of the respondents disagreed and strongly disagreed, respectively. Based on respondents' views, the Management has mechanisms to anticipate, identify, and react to events that affect achieving company objectives. whether the Turnover of key personnel is relatively low, 40% of the respondents strongly agreed, 35% agreed, 15% were neutral and 5% disagreed with the statement. Based on respondents' views majority highlights that Turnover of key personnel is relatively low. High turnover rates do not always mean that you have bad managers or that you are not a great place to work [30]. The purpose of this study is that companies with good brands and industry presence are often targeted by recruiters. According to respondents, 35% strongly agree, 40% agree, 15% are neutral, 5% disagree, and strongly

agree that management and operational decisions are not dominated by a small number of people [31]. This agrees with [32] who urged that Individuals tend to think and question before performing. This is fruitful in the analysis and forecasting of an individual's behavior. Individual decision making has certain pros and cons, few of which are mentioned.

The results were that 30% of the respondents strongly agreed that the organizational structure was appropriate for the size and complexity of the entity, 40% agreed, 20% were neutral and 5% disagree, while 5% strongly disagreed with the statement. The result indicates that the organizational structure details how certain activities are delegated toward achieving an organization's goal. It outlines an employee's role and various responsibilities within a company [33]. The results were that 35% strongly agreed with the statement, had a clear assignment of responsibility and authority, 45% agreed, 15% were neutral, 5% disagreed, and 5% strongly disagreed with the statement. Is shown. The results are consistent with the findings. Authority is the authority or right to perform a task, and responsibility is the obligation given to a person to perform that task [34]. While responsibility is the obligation given to an individual to accomplish the said assignment [35].

*Table 4. Respondents' Opinion on Risk Management.*

Respondents' opinion	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
There exists a Risk Management committee in the organization	35	45	10	5	5
The company has a monitoring system that identifies potential risks	40	40	10	5	5
Management uses instruments for risk transfer or sharing with other organizations (e.g. insurance companies)	35	45	20	5	5
The company regularly updates the risk register	42	28	21	4	5
The company management effectively communicate risks to the employees and the stakeholders	38	42	10	5	5
The company has a monitoring system that identifies potential risks	40	35	15	5	5

#### 4.2. Respondent's Risk Management

The results show that the majority (45%) agree that there is a risk-management committee within the organization, 35% fully agree, 10% are neutral, 10% disagree, and strongly agree with the fact. The results are also consistent with the survey results. Risk-management committees are a way for organizations to take a proactive approach to security. Many non-profit and community-based organizations use a risk management or safety committee to help minimize hazardous issues within their organizations [36].

Most respondents (80%) agree and strongly agree that the company has a monitoring system that identifies potential risks, 10% were neutral, and 10% disagree and strongly with the statement. This agrees with the findings that Risk identification is important because it is used to create a list of risks the organization is facing. All the subsequent steps in the risk management process are aimed at the same list of risks [37].

Most respondents (80%) fully agree that management will use the tool to transfer or share risk with other organizations,

20% are neutral and 10% are complete with this statement, Opposed or opposed to. Findings indicate that risk transfer is a common risk management technique where the potential loss from an adverse outcome faced by an individual or entity is shifted to a third party [38]. A natural person or legal entity usually pays a third party on a regular basis to compensate the third party for taking the risk.

Most respondents agreed and strongly agreed that the company would renew the risk registration on a regular basis (70%), 21% were neutral and 9% strongly agreed and agreed with the statement. The results show that the risk-registration database can be viewed as a management tool for project managers to monitor risk management processes within a project [39]. Most respondents (80%) agreed and strongly agreed that management would effectively communicate risk to employees and stakeholders. 10% were neutral, 10% completely opposed, and agreed with the statement. The results show that by communicating information about risk, all stakeholders, including customers, suppliers, and employees, are placed on the same page. It also allows the target audience to better

prepare for the risk and mitigate its impact when the risk is understood [40]. Timely and effective risk communication reduces confusion, improves problem solving, and strengthens decision making. The maximum of respondents (75%) agree that the agency has a tracking gadget that identifies ability risks, 15% had been neutral, even as 10% strongly disagreed with the statement agreed with the statement. The results also concur with the findings that Understanding risk is also important project management because with every new project comes new project risk. By crafting an effective risk management strategy, an organization can identify the project's strengths, weaknesses, opportunities, and threats [41].

#### 4.3. Multiple Linear Regression for All Variables After Moderation

The study also aimed at finding out the moderating effect of government policy on the relationship between internal control systems and the financial performance of companies quoted in the Nairobi Security exchange. The model  $FP = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon$  explained 96.1% of the variations in financial performance as shown in Table 4. The adjusted r changed from 94.1 to 96.1 meaning there is a significant moderating effect of government policy on the relationship between internal control systems and financial performance.

**Table 5.** Relationship between Internal Control Systems and Financial Performance Coefficients.

Model	Unstandardized Coefficients	Standardized Coefficients	
B Std. Error	Beta	t	Sig.
Internal Control Environment	.120	.056	264
Risk Management	.229	.064	338

a. Dependent Variable: Financial performance

b. Linear Regression through the Origin.

Multiple regression of all variables after moderation. The study also aimed to clarify the easing effect of government policy on the relationship between the internal control system and the financial performance of commercial banks in Rwanda. Model  $FP = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon$  explained 96.1% of changes in financial performance, as shown in Table 5. Adjusted r has changed from 94.1 to 96.1. This means that there is a significant restraining effect on government policy on the relationship between internal control and financial performance.

## 5. Recommendation

### 5.1. Relationship Between Internal Control Environment on Financial Performance of Commercial Banks in Rwanda

The segregation of duties should be occasionally reviewed to match dynamics in accounting staff. Job rotation should be enhanced to ensure all staff can handle duties in absence of their colleagues. The job description should be modified to include a wider range of activities in the accounting department.

The study also recommends that Management should establish and implement a periodic review of internal audit performance to ensure that its performance and value to the Institution are maximized and to ensure compliance with appropriate standards and guidance. The study further recommends that the head of the Internal Audit department should be a professional accountant and registered with any of the professional accountancy bodies in Rwanda to ensure ethical righteousness. In addition, management needs to provide the organization with a strong internal control environment in which internal control activities communicate appropriate policies and procedures. The management environment and management activities

should be evaluated regularly by internal audit and provide the administrator with the assurance that the mitigation management carried out by the administrator is appropriate and effective.

### 5.2. Relationship Between Risk Management and Financial Performance

In addition, risk management has been found to have a positive impact on the financial performance of commercial banks, so this study recommends that commercial banks need to manage risk effectively. The study also recommends that commercial bank management should continually review the bank's credit risk, bankruptcy risk, and interest rate sensitivity. This is because it adversely affects the financial performance of commercial banks. Commercial banks need to improve their capital levels, bank size and operational efficiency, as they have been shown to have a positive impact on the performance of commercial banks in Rwanda.

## 6. Conclusion

### 6.1. Relationship Between Internal Control Environment and Financial Performance

The findings of this research support the findings by concluding that the study concludes that segregation of duties influences the financial performance of commercial banks in Rwanda, and this could be through setting up appropriate stages in the accounting process considering the number of accounting staffers in the institution. Checking the work done by the staff who have attended to the document prior, before proceeding to the next task ensures the accuracy of the document. The study concludes internal audit functions influence financial performance. The management control theories underpin findings where internal auditors review the

policies and procedures that guide activities of the MFI in operation audit. This is underpinned by a stewardship theory. In addition, the preparation of financial statements must disclose all necessary and important information of interest to various stakeholders, as advocated in stakeholder theory. Supporting this discussion of results is the idea that internal control is an important area for listed companies to pay attention to improve their financial performance. Additionally, the findings of this research support the findings of previous researchers. Further, it can be concluded that effective internal control systems must incorporate the effects of corporate governance and government policy to enhance financial performance.

### 6.2. Relationship Between Risk Management and Financial Performance

In addition, the overall results show that risk-management practices have a statistically significant impact on the financial performance of commercial banks in Rwanda. The results also show trends in risk management practices in other developing economies. This finding leads to recommendations that the board should establish an appropriate risk management system. This includes setting the company's annual risk limits, risk appetite, and risk strategies to limit management's excessive risk taking. This system should be reviewed on a regular basis to determine the adequacy, effectiveness, and compliance with management of this risk management system.

## References

- [1] Nance, K. (2014). Service Organization Control Audit Series: The Need for a Uniform Process of Verification of Service Organizations' Internal Controls and the Implementation of This Process.
- [2] Perciun, R., & Clichici, D. (2017). The management of financial stability in national strategies. *Economie și Sociologie*, (1-2), 23-32.
- [3] Brown, P., Ly, T., Pham, H., & Sivabalan, P. (2020). Automation and management control in dynamic environments: Managing organizational flexibility and energy efficiency in service sectors. *The British Accounting Review*, 52 (2), 100840.
- [4] Tartaglione, I. (2019). China's efforts towards sustainable development. An overview of recent policies for a greener economy (Bachelor's thesis, Università Ca'Foscari Venezia).
- [5] Chan, K. C., Chen, Y., & Liu, B. (2021). The linear and non-linear effects of internal control and its five components on corporate innovation: Evidence from Chinese firms using the COSO framework. *European Accounting Review*, 30 (4), 733-765.
- [6] Asiligwa, M., & Rennox, G. (2017). The Effect of internal controls on the financial performance of commercial banks in Kenya. *Journal of Economics and Finance*, 8 (3), 92-105.
- [7] Bett, J. C., & Memba, F. S. (2017). Effects of internal control on the financial performance of processing firms in Kenya: A case of Menengai company. *International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)*, 4 (1), 105-115.
- [8] Ivanchenkova, L., Tkachuk, H., Skliar, L., Holynska, O., Stasiukova, K., & Tomchuk, Y. (2021). Improving the Internal Financial Control of Expenditures of the Budgetary Institutions under the Influence of the Crisis Caused by COVID-19. *Universal Journal of Accounting and Finance*, 1067-1084.
- [9] Lawson, N. D. (2021). "To Be a Good Lawyer, One Has to Be a Healthy Lawyer": Lawyer Well-Being, Discrimination, and Discretionary Systems of Discipline. *Geo. J. Legal Ethics*, 34, 65.
- [10] Manju, S., & Mohika, S. (2014, September). Cooperatives for financial inclusion in India: concerns and challenges. At the 9th ICA Asia Pacific Regional Research Conference.
- [11] Drydakis, N. (2021). Adverse working conditions and immigrants' physical health and depression outcomes: a longitudinal study in Greece. *International Archives of Occupational and Environmental Health*, 1-18.
- [12] Baffoe, M. (2013). Stigma, discrimination & marginalization: Gateways to the oppression of persons with disabilities in Ghana, West Africa. *Journal of Educational and Social Research*, 3 (1), 187-187.
- [13] Jones, P. (2012). Transforming the curriculum: Social work education and ecological consciousness. In *Environmental social work* (pp. 233-250). Routledge.
- [14] Carvalho, J., Francisco, R., & Relvas, A. P. (2015). Family functioning and information and communication technologies: How do they relate? A literature review. *Computers in Human Behavior*, 45, 99-108.
- [15] McNamara, M. (2012). Starting to untangle the web of cooperation, coordination, and collaboration: A framework for public managers. *International Journal of Public Administration*, 35 (6), 389-401.
- [16] Harrison, J., VanDeusen, K., & Way, I. (2016). Embedding social justice within micro social work curricula. *Smith College Studies in Social Work*, 86 (3), 258-273.
- [17] Wambua, P. (2013). Effects of agency costs on financial performance of companies listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and Entrepreneurship*, 1 (5), 587-607..
- [18] Haron, H. B. H., & Khalid, A. A. (2018). The role of shariah supervisory board on internal Shariah audit effectiveness: Evidence from Bahrain. *Academy of Accounting and Financial Studies Journal*.
- [19] Bichanga, D. M., Memba, F., & Njeru, A. (2021). Board Structure and Stock Liquidity: An Empirical Study on Nairobi Securities Exchange. *Journal of Finance and Economics*, 9 (2), 77-82.
- [20] Zu, X., & Kaynak, H. (2012). An agency theory perspective on supply chain quality management. *International Journal of Operations & Production Management*.
- [21] Wiseman, R. M., Cuevas-Rodríguez, G., & Gomez-Mejia, L. R. (2012). Towards a social theory of agency. *Journal of management studies*, 49 (1), 202-222.



- [22] Oberoi, R. (2012). Amalgamate Ethics with Business: An Essentiality and No More an Oxymoron. *International Journal of Social and Economic Research*, 2 (2), 392-405.
- [23] Lowdermilk, T. (2013). *User-centered design: a developer's guide to building user-friendly applications*. " O'Reilly Media, Inc."
- [24] Krishnankutty, B., Bellary, S., Kumar, N. B., & Moodahadu, L. S. (2012). Data management in clinical research: An overview. *Indian journal of pharmacology*, 44 (2), 168.
- [25] Choe, E. K., Lee, N. B., Lee, B., Pratt, W., & Kientz, J. A. (2014, April). Understanding quantified-selves practices in collecting and exploring personal data. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1143-1152).
- [26] Ragab, M. A., & Arisha, A. (2018). Research methodology in business: A starter's guide. *Management and Organizational Studies*, 5 (1), 1-14.
- [27] Denscombe, M. (2017). *EBOOK: The Good Research Guide: For Small-Scale Social Research Projects*. McGraw-Hill Education (UK).
- [28] Citro, C. F. (2014). From multiple modes for surveys to multiple data sources for estimates. *Survey Methodology*, 40 (2), 137-162.
- [29] Rajalakshmi, M., & Gomathi, S. (2015). Cost-Effective Metrics through HRA. *Mediterranean Journal of Social Sciences*, 6 (3), 251.
- [30] Coroiu, A., Moran, C., Campbell, T., & Geller, A. C. (2020). Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PloS one*, 15 (10), e0239795.
- [31] Sharma, G. (2017). Pros and cons of different sampling techniques. *International journal of applied research*, 3 (7), 749-752.
- [32] World Health Organization. (2012). European action plan to reduce the harmful use of alcohol 2012-2020.
- [33] Hanley, N., & Czajkowski, M. (2020). The role of stated preference valuation methods in understanding choices and informing policy. *Review of Environmental Economics and Policy*.
- [34] Goh, C. S., Abdul-Rahman, H., & Abdul Samad, Z. (2013). Applying risk management workshop for a public construction project: A case study. *Journal of construction engineering and management*, 139 (5), 572-580.
- [35] Fapohunda, T. M. (2013). Towards effective team building in the workplace. *International journal of education and research*, 1 (4), 1-12.
- [36] Blum, K. M. (2014). Section 1983 Litigation: The Maze, the Mud, and the Madness. *Wm. & Mary Bill Rts. J.*, 23, 913.
- [37] Niekerk, D. V., Nemaokonde, L. D., Kruger, L., & Forbes-Genade, K. (2018). Community-based disaster risk management. In *Handbook of disaster research* (pp. 411-429). Springer, Cham.
- [38] Weinhofer, G., & Busch, T. (2013). Corporate strategies for managing climate risks. *Business Strategy and the Environment*, 22 (2), 121-144.
- [39] Giannakis, M., & Papadopoulos, T. (2016). Supply chain sustainability: A risk management approach. *International Journal of Production Economics*, 171, 455-470.
- [40] Hajmohammad, S., & Vachon, S. (2016). Mitigation, avoidance, or acceptance? Managing supplier sustainability risk. *Journal of Supply Chain Management*, 52 (2), 48-65.
- [41] Smith, N. J., Merna, T., & Jobling, P. (2014). *Managing risk in construction projects*. John Wiley & Sons.