

ANALYZING THE EFFECTIVENESS OF RISK MANAGEMENT TECHNIQUES IN THE BANKING SECTOR OF PAKISTAN

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Abstract

Purpose: Credit, market, liquidity, and operational risk are factors that influence risk management practices. This study examines how these factors relate to the overall performance of Pakistani commercial banks. The impact of risk monitoring and control mechanisms on Pakistani commercial banks' performance is also examined.

Methodology: A quantitative research design was employed, drawing on data from commercial banks in Pakistan. Structured survey instruments and secondary financial data were analyzed using regression and mediation analyses to assess the impact of risk management practices and the role of risk monitoring and control mechanisms.

Findings: The results reveal that there is an effective relationship between risk management practices and bank performance. The results reveal that the risk monitoring and control mechanism has a significant effect on risk management and mediates the relationship between risk management practices and the performance of commercial banks.

Policy Implications: The results underscore the necessity for banks to establish integrated and holistic risk management frameworks. Regulators and bank managers should emphasize strengthening monitoring and control systems to enhance resilience against financial shocks. By adopting proactive risk prevention strategies, banks can reduce their exposure to systematic vulnerabilities and improve their long-term sustainability.

Novelty and Originality

This study contributes to the literature by offering empirical evidence from Pakistan, where banking systems face structural and regulatory challenges. Unlike prior studies

that often treat risk management practices in isolation, this study highlights the mediating role of risk monitoring and control, providing a more comprehensive understanding of how risk frameworks influence financial performance.

Keywords: Risk Management, Credit risk, Market Risk, Liquidity Risk, Operational Risk, and Risk Monitoring and Control Mechanism, Bank Performance

INTRODUCTION

The global financial crises of the late 20th and early 21st centuries exposed significant weaknesses in banking systems worldwide, underscoring the importance of robust risk management frameworks (Bao et al., 2024). In particular, the 2008 financial crisis highlighted how insufficient capital buffers, inadequate monitoring, and fragmented risk management practices could amplify systemic vulnerabilities, leading to widespread financial instability (Asif, Hassan, & Nisar, 2023). These events have reinforced the necessity for banks to adopt comprehensive risk-management systems capable of identifying, assessing, and mitigating risks in an integrated manner to safeguard institutional stability and overall financial performance.

In the financial industry, risk management is essential, especially in banking, which is still vulnerable to changes in the economy and legal regulations. Thus, preserving financial stability and foreseeing possible vulnerabilities require the adoption and implementation of effective risk management (Putri et al., 2024; Syukriyannur, 2022). Banks play a crucial role as financial intermediaries by transferring money between depositors and borrowers (Asif and Nisar, 2024). However, their position as intermediaries exposes them to several risks that need to be properly controlled. Credit risk is the most important of these, since borrower defaults have the potential to seriously jeopardize financial stability and profitability (Felle & Santioso, 2024). In addition to credit risk, banks face market risk, which emerges from fluctuations in interest rates, exchange rates, and other financial variables (Bessis, 2011). Operational risk adds another layer of complexity, encompassing technological failures, process inefficiencies, and human errors, which can disrupt banking operations (Challoumis et al., 2024). Together, these risks highlight the necessity of adopting integrated and comprehensive frameworks to safeguard banking institutions' resilience and sustainability.

In response to these vulnerabilities, international regulatory frameworks such as the Basel Accords were introduced and continuously refined (Asif & Nisar, 2024). The Basel II framework initially emphasized minimum capital requirements and supervisory review processes, but its limitations became evident during the 2008 crisis. Consequently, Basel III was developed to strengthen bank resilience through enhanced capital adequacy ratios, liquidity requirements, and risk-monitoring protocols (Beyani et al., 2009). These reforms have placed greater emphasis on forward-looking risk assessment, the use of advanced technologies, such as data analytics and artificial intelligence for proactive monitoring, and the integration of risk control into broader governance structures (Iriani et al., 2024). Additionally,

regulatory bodies play a crucial role in ensuring compliance and enforcing standardized risk management practices (Dupont, 2019).

Given the dynamics and interconnected nature of risks in modern banking, traditional practices that treat risks in isolation are increasingly inadequate. Credit risk from borrower defaults, market risk from fluctuations in interest and exchange rates, and operational risks arising from system failures or human errors often interact to compound their effects on financial performance (Bessis, 2011; Challoumis et al., 2024). Thus, holistic and integrated approaches are required in which risk monitoring and control mechanisms play a mediating role in aligning risk management practices with improved financial outcomes (Aulia Asry & Firmansyah, 2022; Mariati & Sinaga, 2022).

Furthermore, effective governance structures have become central pillars for ensuring the success of risk management. Strong Corporate Governance (GCG) frameworks promote accountability, transparency, and oversight, which are essential in embedding a risk-aware culture within banks (Asif & Akhter, 2019). Empirical evidence suggests that banks with robust governance featuring independent audit committees, risk committees, and transparent disclosure practices are better positioned to manage crises and sustain their financial performance (Dinu & Bunea, 2022; Trisnawati et al., 2023; Valdiansyah & Murwaningsari, 2022). Complementing these governance structures, international standards such as ISO 31000:2018 and COSO ERM provide systematic guidelines for risk identification, assessment, and mitigation, enabling banks to align risk management with strategic objectives (Aulia Asry & Firmansyah, 2022; Narsa et al., 2023).

Against this backdrop, risk management and control are no longer limited to regulatory compliance but represent critical drivers of competitive advantage, financial stability, and long-term sustainability. Banks that integrate comprehensive risk management frameworks supported by the Basel accords, strong governance, and advanced monitoring technologies are better equipped to withstand external shocks and enhance their financial performance (Aulia Asry, Firmansyah, 2022; Narsa et al., 2023; Trisnawati et al., 2023). Therefore, this study investigates the determinants of risk management practices in Pakistan's commercial banks, with a particular focus on the mediating role of risk monitoring and control in shaping financial performance.

Global financial crises and subsequent regulatory reforms, such as the Basel Accords, have underscored the critical role of effective risk management in ensuring the stability and sustainability of banking institutions. While previous studies have examined individual dimensions of risk management, the existing literature provides limited insights into the combined impact of multiple risk categories such as credit, market, liquidity, and operational risks on the financial performance of banks, particularly within frontier economies such as Pakistan. Moreover, most prior research has overlooked the role of risk monitoring and control as a mediating mechanism that strengthens the effectiveness of risk management practices in improving bank performance.

This study seeks to address these gaps by investigating the joint effect of risk management practices on the financial performance of commercial banks in Pakistan. First, it evaluates how risk management practices, measured through proxies, such as financing gaps, influence bank performance.

Second, it examines the mediating role of risk monitoring and control in this relationship, highlighting how systematic oversight and governance can enhance the effectiveness of risk management strategies.

Third, it differs from prior studies in that it analyzes the interplay between credit, market, operational, and liquidity risks rather than assessing them in isolation, thereby offering a more holistic perspective.

The originality of this study lies in its focus on the integrative role of risk monitoring and control in bridging traditional risk management practices with improved financial outcomes. The empirical findings are expected to provide valuable insights for both bankers and regulators by offering practical tools and strategies to strengthen risk management frameworks, enhance financial stability, and improve the resilience of Pakistan's banking sector.

This study aims to explore the role of risk management practices, monitoring, and control in shaping the financial performance of commercial banks in Pakistan, while also considering the integration of cutting-edge technologies and current trends to help banks improve early risk detection, management, and transparency. This study assesses Pakistani banking's risk management practices and their influence on the overall performance of banking firms. The specific objectives and research questions were as follows.

OB1: Examine the impact of Risk Management Practices (credit, market, liquidity, and operational risks) on the financial performance of banks.

OB2: Analyze the effect of Risk Management Practices on Risk Monitoring and Control mechanism in the banking sector.

OB3: To evaluate the influence of Risk Monitoring and Control mechanisms on the financial performance of banks.

OB4: To investigate the mediating role of the Risk Monitoring and Control mechanism in the relationship between Risk Management Practices and Bank Financial Performance.

RQ1: What is the impact of Risk Management Practices (credit, market, liquidity, and operational risks) on the financial performance of Banks in Pakistan?

RQ2: How do risk management practices influence risk monitoring and control mechanisms within the banking sector?

RQ3: What is the effect of the risk monitoring and control mechanism on the financial performance of banks?

RQ4: Does Risk Monitoring and Control mediate the relationship between Risk Management Practices and Bank Performance?

LITERATURE REVIEW

Response planning, risk identification analysis, and prioritization are all parts of risk management, as is the use of financial resources to lower risks. Smith et al., (2020) asserted that risk is an unfavorable outcome of investing. As stated by Leo et al. (2019), risk management encompasses risk identification, monitoring, assessment, testing, reporting, and supervision. They argue that, as expected, returns rise, as does risk. Numerous risks, such as those related to insolvency, market, liquidity, operations, and technology, can affect the banking sector performance. Leo et al., (2019) claims that credit, liquidity, operational and market risks are the main threats to the banking sector. Successful risk management is essential for the success of any business. Banks cannot completely eliminate risk, even though risk managers have put rules in place to reduce business exposure. Most risks are more expensive for businesses to manage because they require capital. By communicating, assessing control mechanisms, and monitoring risks, banks can attain risk management claims (Samimi & Amir, 2020). They also contend that identifying the banks' most critical risks can assist in prioritizing prompt risk management. For example, credit risks have been the biggest dangers facing the banking sector. Banks ought to allocate funds to control both expected and unexpected risks. Leo et al., (2019) claim that risk management guarantees the bank's profitability by lowering the potential losses resulting from risks. According to their hypothesis, a risk management team should foresee the hazards specific to their sector and offer prompt remedies. Additionally, Smith et al. (2020) contend that quantitative approaches to risk management are used to manage risk in the banking sector. Since the banking industry works with a wide range of economic sectors, it requires greater expertise in risk management. They also demonstrate that there is a tendency for risks to rise in tandem with a desire to increase returns. By providing advice on the likelihood of risk occurrence, risk management guarantees that banks take profitable risks.

Risk management practices and bank performance

Risk management techniques assist banks in recognizing, evaluating, overseeing, and reducing these risks, thereby ensuring their stability and profitability. Efficient risk management strategies allow banks to use resources wisely and make knowledgeable choices, resulting in better financial outcomes (Harb et al., 2023). A crucial element of risk management is managing credit risk. According to Ferretti (2021), banks must thoroughly evaluate the creditworthiness of borrowers and implement appropriate strategies to reduce the risk of default. Through effective credit assessment procedures and setting credit limits, banks can reduce the frequency of bad loans and non-performing assets. This aids in protecting a bank's financial stability and sustaining a robust loan portfolio, leading to enhanced financial results. Operational risk management is a crucial component of risk management practices (Munir et al., 2020). Banking sectors encounter multiple operational risks, such as internal fraud, system breakdowns, and human mistakes (Ferreira & Dickason-Koekemoer, 2019). By implementing strong operational risk management frameworks, banks can recognize possible vulnerabilities and adopt proactive steps to reduce risk. This aids in reducing

operational losses and guarantees seamless operations, resulting in enhanced financial performance, as stated by Hunjra et al. (2022). Risk management practices have a considerable effect on banks' financial outcomes. By efficiently handling diverse risks, banks can secure stability, profitability, and ongoing growth. This necessitates banks to implement a thorough risk management framework that includes market, credit, liquidity, and operational risk management.

Credit Risk and Bank Performance

Credit risk is an example of financial risk that arises when the possibility of repaying loans or bonds is impaired as an end result of specific or general activities that affect the anticipated cash flow that might have aided the reimbursement with the aid of debtors to banks or any other financial institutions. Credit risk is also called default risk. This means a situation in which a borrower fails to fulfill his responsibilities to the lender, either in part or in complete. In line with (Bouteille & Coogan-Pushner., 2012) as referred to in (Al-Eitan & Bani-Khalid., 2019), credit risk is "the possibility of dropping money due to the lack of ability, unwillingness, or untimeliness of counterparty to honor a financial responsibility." Besides, the Basel Committee (1999) diagnosed credit risk as the uncertainty factor that discloses the lack of ability of a celebration to a contract to satisfy its maturing responsibilities to the financial institution in keeping with the agreed phrases (Brown & Moles, 2008). Bessis (1998) sees credit risk as a sudden poor effect of indicators of monetary soundness on the profitability degree of banks. Loads of factors that are either specific or general in nature interact to result in credit risk. The specific factors are internal to the firm (borrower) and may be controlled via credit portfolio diversification, whereas the general factors (macroeconomic factors) are because of the modifications within the economic system such that every player within the economic system is affected. Asllanaj (2018) opined that banks may additionally be afflicted by credit threats because of 4 factors which consist of:

- Inadequate management practices that result in terrible debts;
- Inefficient and useless mechanisms for reducing terrible debts
- Insider abuses leading to difficult core credit, and
- Poor credit management techniques.

Liquidity risk and bank performance

As banks operate in the monetary sector, they encounter liquidity risk stemming from the accessibility of cash and liquid assets to operate their businesses. Funds, represented by cash equivalents and unencumbered buying capacity, are essential for covering costs and serving as a buffer for any upcoming ambiguity. Nonetheless, in the banking sector, substantial liquid assets in the form of cash signify minimal returns and heightened opportunity costs for holding money. Thus, unless required by the regulatory authority, banks are not allowed to hold large amounts of liquid cash. Another reason for retaining cash is that it guarantees the stability of the financial system. (Chowdhury & Zaman, 2018)

Several factors influence a bank's financial performance. Some of these are macro factors that apply universally across the banking industry. Nonetheless, their impact on the amount one can bank differs based on the bank's level of establishment. The macro factor encompasses nationwide elements of advancement, such as GDP, inflation, interest rates, or the political climate of a nation. When GDP increases, profitability benefits positively. Likewise, prosperity in economic cycles and political strength positively influence banks. (Athanasoglou et al., 2006). Additional elements consist of micro aspects that differ from bank to bank. This could cover capital sufficiency, asset quality, management effectiveness, and liquidity management. A strong capital adequacy ratio indicates that the bank possesses sufficient funding sources for its investments. Therefore, banks have considerable flexibility to absorb losses and unexpected market disruptions. This could provide a safe cushion for investments that might be perilous. but generates higher profits (Ayele, 2012; Ongore and Kusa, 2013).

In addition, the standard of assets exerts a direct influence on bank performance. A significant proportion of loans that are not performed are the greatest danger a bank might encounter (Dang, 2011). Effective management performance guarantees minimal operating expenses and, consequently, an enhancement in total performance (Ongore & Kusa, 2013).

Managing liquidity is a crucial element that influences bank performance. Sufficient liquidity, meaning a bank's capacity to meet commitments to its depositors, is directly related to the bank's profitability (Dang, 2011). Therefore, banks must uphold suitable liquidity to achieve profitability. Liquidity can be assessed using a variety of ratios, including total deposits to total assets and total loans to total assets, which are the most frequently used ratios (Ongore & Kusa, 2013). Several studies have explored the impact of liquidity risk on performance. The outcomes of these studies have been rather diverse. Numerous studies conducted in the banking industries of Iran, Europe, Tunisia, South Africa, Malaysia, and various other areas demonstrate encouraging results, with a rise in liquidity status (Cuong Ly, 2015; Tabari, Ahmadi, & Emami, 2013; Hakimi, Zaghdoudi, 2017; Mamatazakis & Bermapi, 2014; Marozva, 2015). Certain researchers have also discovered that no connection exists between these two variables (Konadu, 2009). Nonetheless, certain studies in countries such as Jordan have encountered varied outcomes for these factors (Alzorqan, 2014; Olagunju, David, & Samuel, 2012). Olagunju et al., (2012) argued that both excessive and insufficient liquidity can be lethal for any bank. Nevertheless, several studies indicate that a consistent decline in the liquidity position diminishes the performance of banks in Canada, America, Nigeria, and Jordan. Nepal, Turkey, and Switzerland (Agbada & Osuji, 2013; Alper & Anbar, 2011; Bourke, 1989; Ferrouhi, 2014; Ibe, 2013; Graham & Bordeleau, 2010; Musiega, Olweny, Mukanzi & Mutua, 2017; Neupane & Subedi, 2013; Nimer, Warrad, & Al Omari, 2013). The overall findings of the study on these variables have yielded quite diverse outcomes across various regions; thus, it can be inferred that regional variations and particular macroeconomic elements may influence the factors significantly. Hence, it is necessary to analyze the impact of liquidity on bank performance tailored to Pakistan. This will allow regulators to

develop strategies and handle risk according to the unique traits of this area while considering Pakistan's macro environment.

Operational Risk and Bank Performance

Operational risk management has turn out to be one of the quickest-growing and maximum complex risk disciplines in banking industry (Koomson, 2011). In 2006, the Basel Committee of Banking Supervision offered the operational risk definition: "Operational risk is described because the risk of loss attributable to inadequate or failed internal procedures, people and systems or from outside occasions." One of the most common reasons for failure in banks and coverage groups is a lack of knowledge of threat control.

Decision-makers are struggling to manage the risks of bank failures, and operational risk control is still facing many obstacles in the face of uncertainty. Additionally, a relatively recent development in risk management during the financial crisis was a change in the way investors took risks (Aren & Hamamci, 2023). While an organization's personnel procedures and methods are influenced by external events, operational risk occurs first, followed by credit and market risks. Given that operational risk has been identified as one of the primary drivers of financial losses in the banking and insurance sectors over the past 15 years, defining roles and responsibilities is crucial to creating an operational risk framework, and as such, revisions must be carefully coordinated (Tuncel & Alpan, 2010; Zango et al., 2015). Most banking industries worldwide now accept the practice of banks controlling operational risk (Shahrin & Ibrahim, 2021). Operational threat in the banking sector is not always a distinct risk. In actuality, banks ought to deal with it even before they issue their first trade or mortgage. However,, it is new to believe that operational risk control is a discipline with its own control shape tools and procedures similar to credit or market risk (Kaiser, 2020).

Market Risk and Bank Performance

Market risk arises from price volatility at the security or product stage,, including services and foreign exchange rates. Additionally, the market values commodity costs, equity exchange rates, and price fluctuations can instantly boost chance publicity (Ghosh, 2012; Holod et al., 2020). One consequence of market risk is a negative balance sheet due to market rate volatility (Valitov and Nigmatzyanov, 2014). Such risks include the rise in market chance exposures that results in changes to market values, exchange costs, and inventory charges (Othman & Ameer, 2009; Valitov & Nigmatzyanov, 2014; Polizzi & Scannella, 2020; Fantazzini & Zimin, 2020).

According to Valitov and Nigmatzyanov (2014), a legitimate banking tool should give market participants information about the desired risk metrics. As a result, lowering information asymmetry about market data improves the efficiency of market participants and bank managers' decision-making (Hirtle, 2016). Market risk, in addition to its economic nature, is linked to various aspects of the financial market such as credit spreads, commodity prices, economic leverage, equity fees, interest rate risks, interest prices, and various financial devices that have fixed values in the public market.

It is also associated with the misalignment of assets and liabilities in certain cases (Scannella, 2018; Huy et al., 2021). A few studies have explained market risk as the potential for suffering losses due to unforeseen changes in financial devices (Christoffersen, 2012; Tian, 2017). Since this type of chance is entirely dependent on uncertain events that could occur at any point in the future, it is difficult to control. According to Aruwa and Musa (2014) and Koch and MacDonald (2014), economic organizations that engage in excessive trade activities run the risk of experiencing significant market fluctuations and an average financial state of affairs at the institutional level. Additional studies (Worzala, 1995; Cornelia, 2012; Ali et al., 2020) show that banks are the main participants in economic units, making them vulnerable to changes in market prices and collateral credit risk.

Market risk can be classified based on the type of risk and financial leverage (Aruwa & Musa, 2014; Muriithi et al., 2016; Dey et al., 2016; Odubuasi et al., 2018; Zhou et al., 2020). It occurs when bank assets such as commodity bonds, currencies, off-balance-sheet contracts, and equity merchandise face negative market costs (Van Greuning & Bratanovic, 2009; Jobst et al., 2021; Guzel, 2021). It is important to note that a healthy banking system must include records of common risk indicators for market traders. By increasing information symmetry, it will make bank risk profiles more comparable. This is significant because lender shareholders and other market participants strongly advise the risk-taking decisions made by banks (Hirtle, 2016).

Muriithi et al., (2020) paper, market risk was found to have a significant impact on the banks overall economic performance over both the short and long term. Consequently, if the banks' level of market risk increases, its profitability will decrease. Furthermore, banks' profitability is impacted by financial leverage, foreign interest fees, and change exposure. Additionally, Kioko et al. (2019) examined the impact of monetary risk on banks' financial standard performance. In accordance with their effects, market risk and economic risk together have a negative influence on overall monetary standard performance. In additional recent studies, Zhou et al. (2021) looked into the effects of financial leverage and found that it has a very negative effect. They also confirm that monetary leverage significantly lowers economic standard performance.

Specifically, during a financial crisis, as a substitute, some studies (Dey & Kassi et al., 2018) have examined the ways in which financial leverage influenced economic performance and found a strong correlation between them. Karim et al., (2018) investigated how sensitive the company was to market risks such as interest rates inflation and foreign exchange. According to the results, profitability is unquestionably linked to market risk. Ali and Oudat (2020) examined the relationship between economic risk and overall performance, finding a significant correlation based on market risk size. According to Kahihu (2021), market risk impacts financial performance, who also found a remarkable and pervasive correlation between interest rates and financial leverage risk. However, a detrimental impact was also found for foreign exchange risk at the same time.

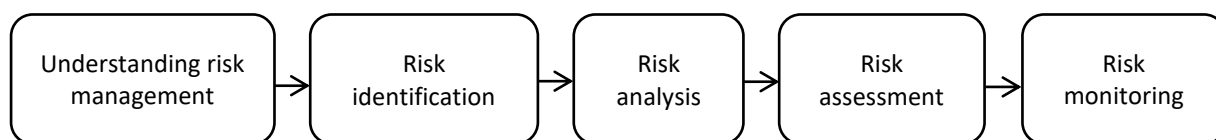
Specifically, the overall financial performance of a bank can be significantly impacted by market risk. This type of risk is contextualized by shifts in market prices, which include interest rates, foreign exchange fees, commodity fees, and inventory fees. A

financial institution faces the risk of suffering financial losses due to adverse market conditions, even though it is not exposed to market risk. Furthermore, market risk should negatively impact financial institutions' typical financial performance. For instance, if a bank's portfolio contains a significant amount of assets that are susceptible to market fluctuations, such as stocks, and if the stock market unexpectedly declines, the bank may also suffer losses that jeopardize its financial stability and profitability. Furthermore, if a financial institution has a significant amount of forex risk and its local foreign cash drops significantly, the institutions' financial situation might suffer. Nonetheless, banks can take special steps to manage market risk and lessen its impact on their regular financial performance. A powerful risk management strategy can assist in reducing the negative consequences and ensuring banks' profitability and financial stability.

Risk Monitoring and Control mechanism

The risk control technique increases the number of questions that display the significance of risk control implementation. These questions assist in identifying the activities that can cause losses and examining the degree to which viable damage or loss occurs. Furthermore, the risk control procedure helps to decide movements and activities that are going to be implemented to address and manage those capability risks. After identification and planning, the bank begins tracking and reporting strategies (Tursoy, 2018). Rehman and Rosman (2009) described four steps of the risk control technique: expertise risk control, risk identification, risk evaluation and assessment, and risk monitoring. Chen (2023) states that risk control stages are figuring out the risk through brainstorming sessions, assessing – analyzing, and evaluating the viable impact of the risk on the bank, reaction – developing solutions for risk mitigation and prevention inside the destiny and the final step is monitoring – decide if the implemented approach for risk mitigation and prevention works efficiently. In step with Hallunovi and Berdo (2018), the risk control procedure consists of chance identity, chance evaluation and assessment, and risk audit.

According to Gitau & Muigai (2018), the risk control method consists of two steps: risk source identification and the usage of techniques to quantify the risk. All researchers agree that risk control techniques consist of risk identification and assessment. These two steps are the main part of the risk control procedure. The risk identification step allows the bank to become aware of the possible loss of assets. Effective identification is essential in preventing risk from increasing, which may cause deteriorated overall bank performance. The risk assessment step permits banks to evaluate possible losses and prevent them by forming provisions. Different steps, including understanding risk management, risk evaluation, and risk monitoring, are additional and may be blanketed in the risk control technique as price-brought steps. All different elements, including risk control movement identification, reporting, and risk audit, are not critical for an effective and efficient risk control technique. In any case procedure step evaluation, the risk control procedure has evolved and is provided in figur



In summary, banks face many dangers that must be mitigated and controlled. The risk control technique consists of two essential steps: risk identification and risk assessment. Effective techniques allow banks to avoid viable losses and extra provisions.

THEORETICAL FRAMEWORK

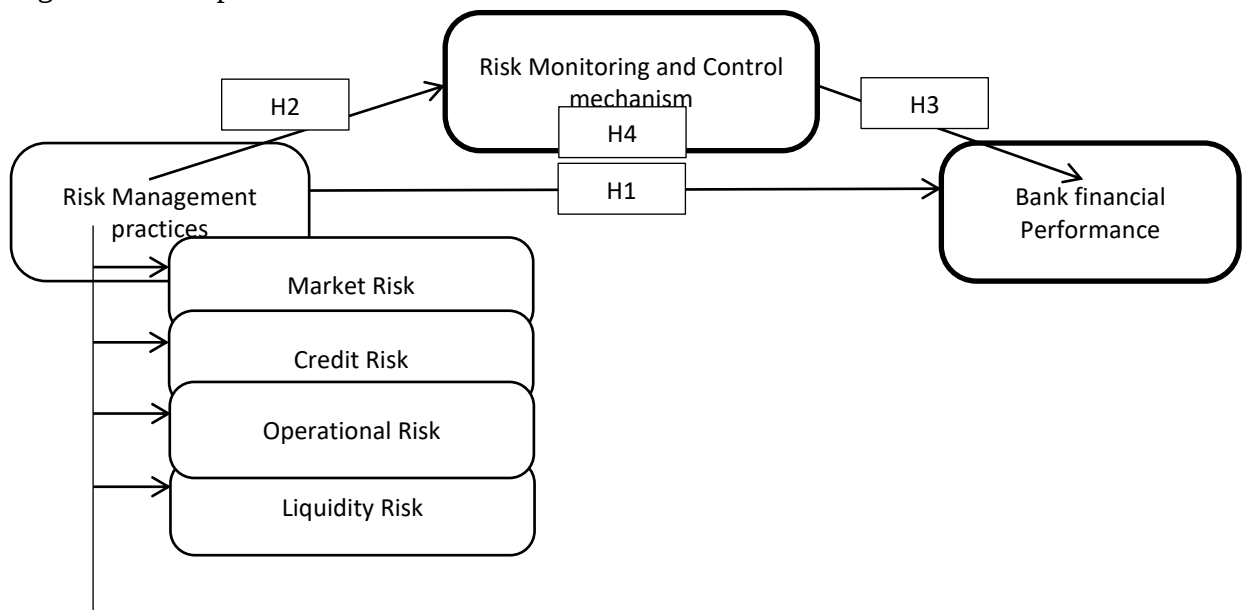
Institutional Theory provides a robust lens for understanding why and how conventional banks adopt and implement comprehensive risk management practices encompassing credit risk, market risk, liquidity risk, and operational risk. It posits that banks are not solely driven by efficiency or profit maximization, but are also influenced by institutional pressures arising from their external environment, which shape structures, processes, and practices to gain legitimacy and ensure survival (Rahman & Akhter, 2022). Coercive pressures, such as regulatory requirements, compel banks to adopt risk management frameworks in compliance with central bank directives, Basel III guidelines, and other statutory regulations that directly address capital adequacy, market discipline, and disclosure requirements (Alqatan et al., 2021). In the context of credit risk management, coercive pressure from banking regulators mandates stringent loan classification policies, provisioning requirements, and credit risk assessment standards to safeguard asset quality and protect depositors' interests (Arif et al., 2023). Similarly, market risk management is shaped by both coercive and normative pressures, as regulators require banks to conduct stress testing and value-at-risk analysis, whereas industry associations and professional standards demand adherence to best practices in market exposure monitoring (Yekini et al., 2020). Liquidity risk management is often a response to regulatory liquidity coverage ratios and net stable funding ratio requirements, which are coercive in nature, as well as normative expectations from rating agencies and professional banking bodies that emphasize prudent liquidity buffers (Rahman & Akhter, 2022).

Operational risk management, which covers risks arising from internal processes, systems, human errors, and external events, is influenced by all three institutional pressures. Coercive forces emerge from international regulatory frameworks like Basel II and III, which explicitly require banks to have operational risk frameworks in place. Normative pressures stem from auditing standards, professional certifications, and governance codes, which stress strong internal controls and compliance functions (Alqatan et al., 2021). Mimetic pressures lead banks to emulate their successful peers in adopting advanced risk management technologies, centralized risk oversight structures, and integrated risk governance mechanisms to remain competitive and credible in the market (Arif et al., 2023).

By acknowledging these coercive, normative, and derivative forces, Institutional Theory provides an integrated explanation for why conventional banks systematically

address credit, market, liquidity, and operational risks, not merely as a profit-maximizing choice but as a legitimacy-seeking strategy in a highly regulated and competitive environment (Rahman & Akhter, 2022). This perspective highlights that effective risk management is as much about conforming to institutional expectations as it is about achieving good financial performance (Yekini et al., 2020).

Figure 1: Conceptual Framework



Hypotheses

(H₁): Risk Management Practices (credit risk, market risk, operational risk, and liquidity risk) are significantly related to bank financial performance.

(H₂): Risk Management Practices are significantly related to Risk Monitoring and Control mechanisms.

(H₃): Risk monitoring and control mechanisms are significantly related to bank performance.

(H₄): Risk Monitoring and Control mechanisms mediate the relationship between Risk Management Practices and Bank performance.

METHODOLOGY

Utilizing well-established theories like institutional theory as a guide, the study will take a deductive approach. These theories guide the creation of study-related hypotheses. The study follows a positivist epistemological philosophy that holds that knowledge can be acquired by methodically observing and quantifying observable phenomena. Our research was limited to the collection and objective evaluation of quantitative data. The study will use a descriptive quantitative research design to examine the relationship between the mediator as well as the independent and dependent variables. With this design, data collection and analysis can be carried out methodically. The research utilized a mono-method approach and relied only on the

use of a questionnaire for data collection. The collected data will be quantitative because quantitative research emphasizes numerical data, statistical analysis, and generalizability.

The study's target audience will be the banking sector in Pakistan and targeted managerial-level staff from conventional banks that are directly responsible for risk assessment, monitoring, and control. The sampling frame included individuals in positions such as Chief Risk Officer (CRO), Risk Management Manager, Credit Risk Manager/Head of Credit, Treasury and Asset–Liability Management (ALM) Manager, Market Risk Manager, Liquidity Risk Manager, Compliance Manager, Internal Audit Manager, and Branch/Operations Manager with risk oversight responsibilities.

A purposive sampling technique was employed to ensure that only respondents with specialized knowledge of risk management practices were included. The target population consisted of managers from conventional banks operating in Lahore, Karachi, and Islamabad, with an expected sample size of 350 respondents based on accessibility and willingness to participate, from which 244 respondents filled out the questionnaire. The sample size will be determined based on the unity formula.

The adopted questionnaires were those that were used exactly as intended or in the same language as when they were created (Korb, 2012). Responses were obtained for each item on a five-point Likert scale. Respondents can use one of five points on a psychometric response scale called the five-point Likert scale to indicate how much they agree or disagree with a statement: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly agree.

VARIABLES	SYMBOLS	DIMENSIONS	REFERENCES
Risk Management Practices (10 items)	RMP		Al-Tamimi, 2002; Al-Tamimi and Al-Mazrooei, 2007; Abu Hussain and AlAjmi, 2012
Credit Risk(5 Items) Market Risk (5 Items) Liquidity Risk(Items) Operational Risk(5 Items)			Al-Tamimi, 2002; Al-Tamimi and Al-Mazrooei, 2007
Risk Monitoring and Control mechanism(9 Items)	RMC	Understanding risk management Risk identification Risk analysis Risk assessment Risk monitoring	Al-Tamimi and Al-Mazrooei, 2007; Abu Hussain and Al-Ajmi, 2012
Bank Performance(10 Items)	BFP	Banks Financial Performance	Khrawish, 2011; Lelgo & Obwogi, 2018

A questionnaire-based survey will be conducted as the research strategy for data collection. The questionnaire was collected from different articles to gather relevant data from the targeted population. We will use both Google Forms and in-person

depending on the preferences and convenience of participants to collect data virtually and physically, respectively.

The research time horizon refers to the duration over which a study is conducted and the timeframe within which data collection, analysis, and interpretation occur. Our study used a cross-sectional approach. Cross-sectional studies have a single time point for data collection and analysis, providing a snapshot of a population or phenomenon at a specific time.

$$BFP = \alpha + \beta_1 \cdot CR + \beta_2 \cdot MR + \beta_3 \cdot OR + \beta_4 \cdot LR + \beta_5 \cdot RMC + \epsilon$$

Independent Variables:

Credit Risk (CR): The risk of loss due to a borrower defaulting. Market Risk (MR): The risk of loss due to changes in market conditions. Operational Risk (OR): The risk of loss from inadequate or failed internal processes or systems. Liquidity Risk (LR): The risk that a bank cannot meet its financial obligations because of insufficient liquidity.

Mediating Variables:

Risk Monitoring and Control mechanism (RMC): A variable representing how the bank monitors and manages risks and controls identified risks. .

Dependent Variable:

Bank Performance (BFP): The overall performance of the bank, which can be measured by profitability, growth, risk-adjusted return, or other key performance indicators.

With an emphasis on gathering numerical data, a structured survey instrument with quantifiable measures will be used to enable thorough statistical analysis. To guarantee its validity and reliability, the questionnaire will contain items that have been taken from published literature and validated scales. In line with positivism's emphasis on quantifiable data, the survey included only closed-ended questions. The questionnaire is provided in the appendix. The research goal, which is to measure and analyze the correlations between variables, is congruent with this methodology.

RESULTS AND DISCUSSION

This study aims to investigate the relationships between risk management practices, risk monitoring and control mechanisms, and bank performance. An explanation of the data collection process used to conduct this study is provided in the chapter before this one. To meet the research objectives and make sense of the hypothesis formulated in this study, the results analysis and conclusions from the data collected are reported in this chapter. We evaluated the data collected from our selected respondents using IBM SPSS and Smart PLS 4. The four factors in this study were risk management practices, risk monitoring and control mechanisms, and bank performance. To confirm these results, the data were subjected to several analyses.

These analyses were used to determine the outcomes.

Reliability and validity analysis

Correlation analysis
 Structural equation modeling

RESULTS

The results provide a general overview of the respondents' demographic characteristics in the following tables. The tables provide various details regarding the survey respondents.

Table 1: Descriptive Statistics

Descriptive Statistics			
	Category	Frequency	Percentage
Gender	Male	125	51.2
	Female	119	48.8
Age	18-30	31	12.7
	31-45	169	69.3
	46 and above	44	18.0
Marital Status	Single	120	49.2
	Married	124	50.8
Education	Diploma	9	3.7
	Bachelor's	44	18.0
	Masters	169	69.3
	PhD.	22	9.0
Experience	0-5 years	67	27.5
	5-10 years	72	29.5
	10-15 years	71	29.1
	15 + years	34	13.9

The Table shows that married make up the majority of participants. Men make up 51.2% of the study's sample, which is higher than the percentage of women. Most of the respondents have a master's degree, and most of the participants are between the ages of 31 and 45. 67 % of the workforce had less than five years of experience, 72 % had experience in between 5 - 10 years, 71 % had experience between 10 - 15 years, and 34% had more than 15 years' experience.

Table 2: Convergent Validity

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BFP	0.807	0.812	0.857	0.563
RMC	0.795	0.806	0.850	0.550
RMP	0.925	0.928	0.934	0.503

The result's internal consistency can be verified owing to reliability. According to (Brown, 2002) the Spearman-Brown test, Kuder Richardson test, and Cronbach's alpha are the most often utilized techniques for evaluating reliability. The latter has been applied to evaluate the dependability of the gathered data because it appears in the literature the most. The standard test for determining a variable's reliability is Cronbach's alpha. The test examines an item set's internal consistency to determine how closely related they are to one another.

A 0.70 or higher is regarded as appropriate for the majority of research in the social sciences (Seçer, 2013). The reliability of both variables as of this work (the Cronbach Alpha of the risk management practices is higher in the above table $.925 > 0.07$, of bank performance's Cronbach Alpha $= .807 > 0.07$) is higher than 0.07, indicating that the internal consistency of the two variables-related items is in good shape.

The intended model and connections between latent and observed variables were examined using structural equation modeling. Reliability for all constructs in this study—risk management practices, risk monitoring and control mechanisms, and bank performance—was evaluated using composite reliability, and it was found to be at or above the threshold values. When conducting research, an internal consistency reliability value of at least 0.7 in the early stages and 0.8 or 0.9 in the later stages is considered satisfactory; a value of less than 0.6 indicates a lack of reliability (Henseler et al., 2009).

The conventional threshold for Average Variance Extracted (AVE) is 0.50 or higher (Fornell & Larcker, 1981); values above 0.50 in the table represent that constructs explain at least 50% of its variance in its items.

Table 3: Heterotait - Monotrait ratio

Constructs	BFP	RMC	RMP
BFP			
RMC	0.782		
RMP	0.761	0.821	

Validity can be assessed using convergent and discriminant validity techniques. Discriminant validity can be assessed by examining the cross-loadings of the indicators. According to Hair et al. (2017), an indicator's outer loading with its construct needs to be greater than all its loading with other constructs. A table displays a summary of the reflective measurement model results.

According to MacKenzie, Podsakoff, and Podsakoff (2011), discriminant validity is used to assess the relationships between latent variables or to verify that a reflecting variable has the strongest correlation with its indicators. Additionally, the HTMT criteria should be used to evaluate discriminant validity according to Smart-PLS. When the HTMT value is less than 0.85 it has been shown that the two reflective constructs have discriminant validity. The table below displays an analysis of the HTMT results for this investigation.

Table 4: Fornell-Larcker criterion

Constructs	BFP	RMC	RMP
BFP	0.680		
RMC	0.654	0.670	
RMP	0.765	0.712	0.635

Therefore, the two primary techniques for evaluating discriminant validity are cross-loading analysis and the Fornell-Larcker criteria. A variable dependability index needs to be greater than 0.70 (Fornell & Larcker, 1981). The results of applying the HTMT and Fornell-Larcker criteria to evaluate the discriminant validity of this study are succinctly displayed in the above table. The above table shows that there is excellent validity between the indicators because each one has a value greater than 0.70. The results of the collinearity statistics indicate that all the study's predictors are moderately associated, and there are no collinearity issues (Ringle Hair & Sarstedt, 2011).

The table above shows that the discriminant validity between the two reflective constructs has been demonstrated for each number less than 0.85. In summary, the measurement model employed in this investigation demonstrated suitable discriminant and convergent validity, depending on each test result.

Collinearity Statistics

The degree of multicollinearity was measured in the regression analysis using the variance inflation factor (VIF). Multicollinearity is a term used to describe the correlation between multiple independent variables in a multiple regression model. This could have led to a decline in the regression results. Thus, one can use the variance inflation factor to assess the extent to which multicollinearity has increased the variance of a regression index.

The variables are not correlated when VIF equals 1. A variable is said to have a moderate correlation when its VIF falls between one and five, and a strong correlation when it exceeds five. This was used to ascertain the degree of multicollinearity in the regression equation. Data on the average variation inflation factors (VIF) and tolerance are provided. Every VIF value was 1 or greater, which is below the cut-off value of 10, suggesting that the variables did not have a multicollinearity problem (Field, 2009). An average VIF of less than 5 was discovered. Therefore, the regression is unbiased.

Path Coefficients

Bootstrapping was used to confirm the relationship between the latent variables and the structural model. In this section, the relationship between the variables was examined. For both the direct model estimation and the mediating outcomes, the path coefficient value and total effect values were determined. The independent variable in this study's structural model was risk management practices. The risk-monitoring and control mechanism acts as a mediator, and bank performance acts as a dependent

variable. Given that the standard error establishes the significance of the relationships, the bootstrapping procedure is utilized to assess the implications of path coefficients. In this study, relationships were tested using path coefficient values, and the significance of the relationship was determined by t-values greater than 1.96, at a significance level of 5 % (0.05). The table displays the path coefficient of the direct relationship, as hypothesized. Smart PLS path weighting and bootstrapping with 5000 samples were used to calculate the path coefficients of the inner model. The structural model assessment results demonstrated the strength of the hypothesized relationships between the study constructs.

Table 5: Hypothesis Testing

Hypothesis Testing	Beta coefficient (β)	Standard deviation (STDEV)	T statistics ($ O/STDEV $)	P values
RMC -> BFP	0.215	0.063	3.419	0.001
RMP -> BFP	0.612	0.053	11.517	0.000
RMP -> RMC	0.712	0.038	18.501	0.000

An indirect significant influence ($\beta = 0.612$, T-value = 11.517, P-value = 0.000 < 0.05) of risk management practices has also been found to have an impact on bank performance. This implies that banks will engage in bank performance more successfully if risk management techniques are implemented correctly.

Risk Management Practices → Bank Performance.

The results for Hypothesis 1 showed that bank performance was greatly influenced by risk management practices ($t = 11.517$, $p < 0.05$).

Risk Management Practices → Risk Monitoring and Control Mechanism..

Consequently, hypothesis 2 was validated, as there was still a significant correlation ($t = 3.419$, $p < 0.05$) between risk management practices and risk monitoring and control mechanisms.

Risk Monitoring and Control Mechanism → Bank Performance.

According to Hypothesis 3, there is a strong positive correlation ($t = 3.419$, $p = 0.001$) between an innovative work environment and its innovativeness. This suggests that good risk monitoring and control mechanisms increase bank performance.

Risk Management Practices → Risk Monitoring and Control mechanism → Bank Performance

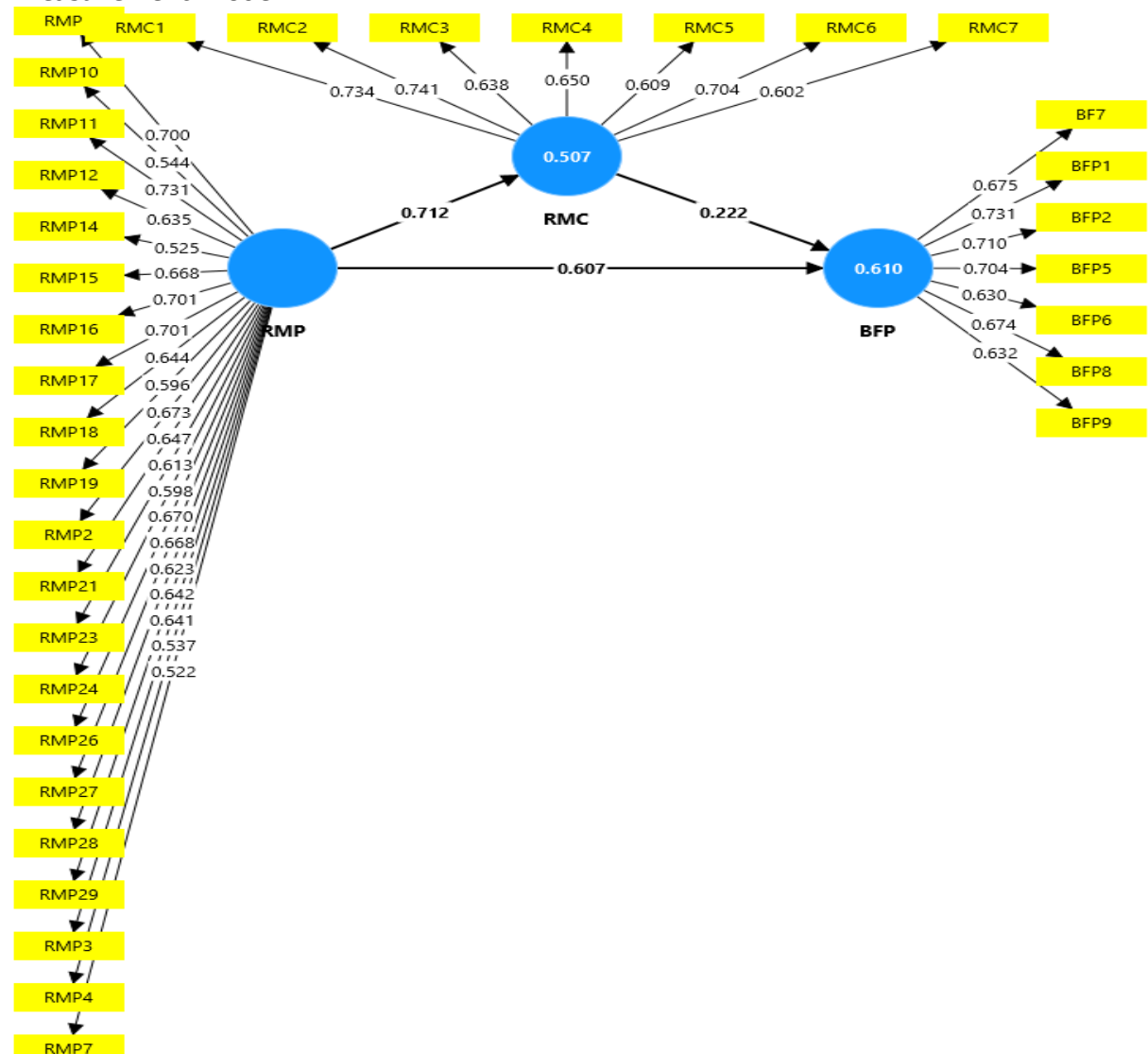
According to Hypothesis 4, efficient risk monitoring and control mechanisms and risk management strategies would both benefit bank performance. The results showed that there is a strong positive correlation between risk monitoring and control mechanism, risk management techniques, and bank performance ($t = 3.445$, $p = 0.001$).

Table 6: Mediating Effect

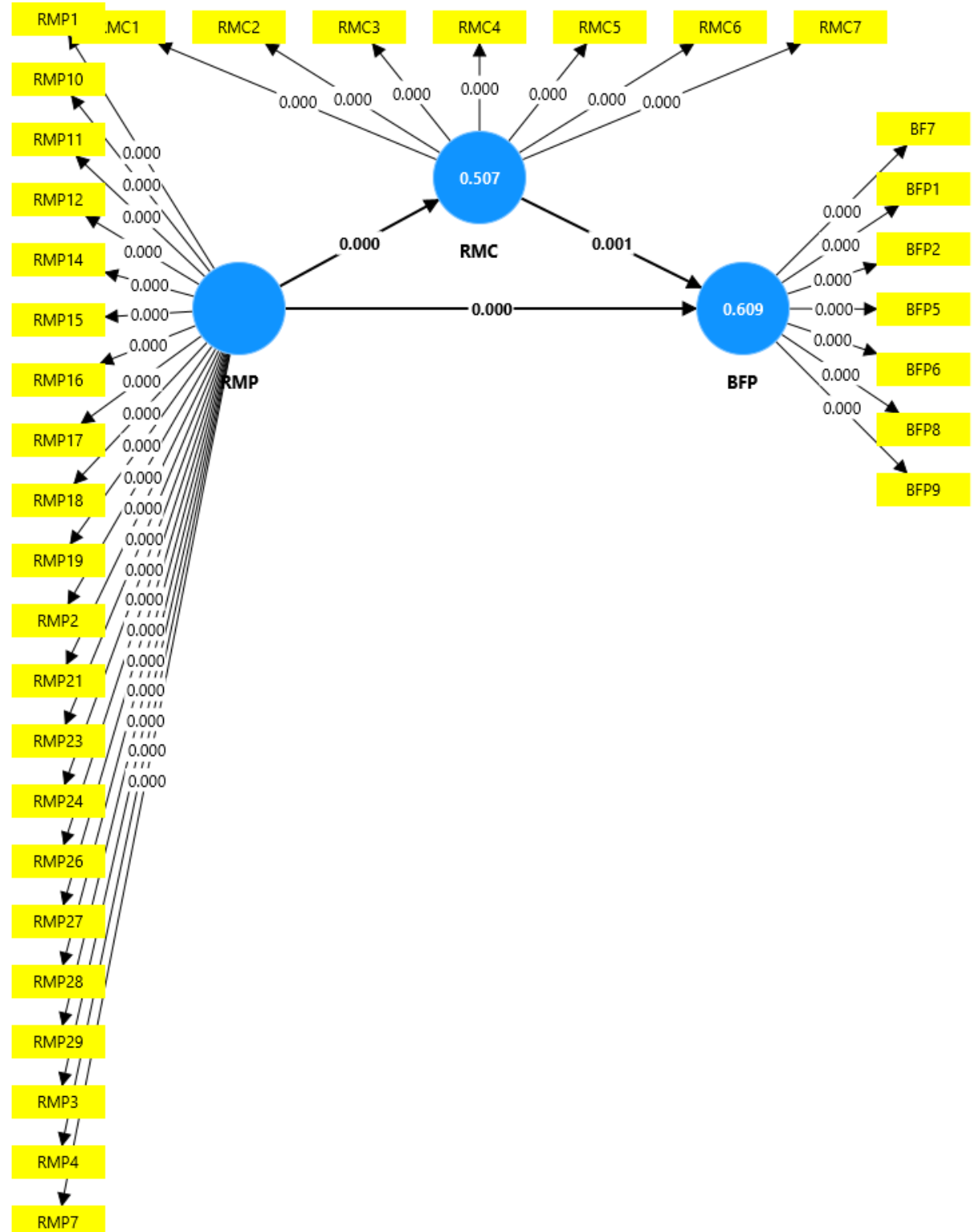
Specific indirect effects

	Beta coefficient (β)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
RMP -> RMC -> BFP	0.153	0.044	3.445	0.001

Measurement Model



Structural Model



DISCUSSION

Banks are seen as the backbone for the acceleration of economic activity in our fast-paced world, since they play such an important role. This section discusses the hypotheses and implications. The Institutional theory was supported by the current investigation. Institutional theory plays a significant role in the theoretical framework of Pakistan's banking sector. According to this study, risk monitoring and control mechanism as a mediator and risk management practices as an influence on bank performance. To comprehend the impact, this research focuses on the hypothesis and its implications.

Although banks have to deal with a selection of risks because risk is inherent in banking operations, the most critical of these are risk control practices, risk monitoring, and control mechanisms. For this reason, the researcher concluded that risk management practices have a fine effect on the financial performance of business banks, as indicated by the findings of this study. This study covers risk control practices as determinants of credit, market, liquid, and operational risk. The findings show that higher risk control tools and strategies enhance financial performance (ROA and ROE). Consistent with the study's regression outcomes, powerful risk monitoring and control mechanisms can enhance ordinary monetary performance based entirely on independent variables (risk management practices). As risk control practices are essential, it is encouraged that a strict risk management practice system be implemented. Due to the fact that risk control has any such huge effect, it is far encouraged that managers observe a strict risk control system and unfold their bank's earning activities.

The low financial performance of conventional banks in Pakistan has been attributed to unfortunate risk valuation and vulnerable risk control policies, a substandard mortgage portfolio, and bank registration with inadequate assets. Lengthy-time period liabilities are drastically used by Pakistani business banks, resulting in excessive borrowing prices and the possibility of bank crumbling.

Recommendations

This study examines the impact of risk management procedures and risk monitoring and control systems on the financial performance of traditional banks. To improve Pakistan's economy, it is necessary to examine the impact of additional risks, such as compliance and legal technological reputational and strategic risks, as the study did not cover all risk management techniques.

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