# RISK MANAGEMENT STRATEGIES AND FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES IN NEPAL

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## CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **"Risk Management Strategies and Financial Performance of Manufacturing Companies in Nepal"** The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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## REPORT OF RESEARCH COMMITTEE

Jeevan Chaudhary has defended research proposal entitled **"Risk Management Strategies and Financial Performance of Manufacturing Companies in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Dhruba Prasad Subedi and submit the thesis for evaluation and viva voce examination.

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## APPROVAL - SHEET

We, the undersigned have examined the thesis entitled **"Risk Management Strategies and Financial Performance of Manufacturing Companies in Nepal"** presented by Jeevan Chaudhary, a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the viva voce examination of the candidate of the candidate. We hereby certify that the thesis acceptable for the award of degree.

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**Jeevan Chaudhary**

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## ABBREVIATIONS

| | |
|---|---|
| AM: | Arithmetic mean |
| CAR: | Capital Adequacy Ratio |
| CR: | Current Ratio |
| CRR: | Credit Risk Ratio |
| CV: | Coefficient of Variation |
| F&D: | Fixed Deposit |
| FIs: | Financial Institutions |
| FY: | Fiscal Year |
| LR: | Liquidity Ratio |
| NRB: | Nepal Rastra Bank |
| ROA: | Return on Asset |
| ROE: | Return on Equity |
| SD: | Standard Deviation |
| SE: | Stock Exchange |
| TA: | Total Assets |
| TDR: | Total Debt Ratio |
| TDTE: | Total Debt to Total Equity |

## ABSTRACT

This study is examined the risk management strategies and financial performance of manufacturing companies in Nepal. The main objectives of this study are to assess the risk management strategies and financial performance of manufacturing companies in Nepal, to examine the relationship between risk management strategies and financial performance of manufacturing companies in Nepal and to analyze the impact of risk management strategies on financial performance of manufacturing companies in Nepal. Liquidity ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR) and Credit Risk Ratio (CRR) are the independent variable whereas Return on Assets (ROA) and Return on Equity (ROE) are the dependent variables . Descriptive statistics, correlation analysis and multiple regression analysis were used to present data. The major finding of this study the correlation matrix in reveals intricate interdependencies between financial performance metrics and risk management strategies in manufacturing companies. The significant relationships between ROA, ROE, and liquidity ratios underscore the importance of balancing liquidity management with effective asset utilization and profitability strategies. Notably, the strong positive correlations between credit risk management and performance metrics suggest that firms prioritizing sound credit practices are better positioned to achieve superior financial outcomes. The regression coefficients reveal important dynamics between financial ratios and ROA in manufacturing companies. Conversely, the negative relationship of Capital Adequacy Ratio with ROA. The relationships between financial ratios and ROE in manufacturing companies. The significant negative effect of Liquidity Ratio on ROE suggests the need for careful management of liquid assets to avoid inefficiencies in capital deployment. The Current Ratio also highlights potential risks associated with short-term liabilities that could impede profitability. Conversely, the positive impact of Capital Adequacy Ratio reinforces the necessity for manufacturing firms to maintain robust capital structures to foster financial performance.



***Keywords:*** *Liquidity Ratio, Current Ratio, Current Ratio, Capital Adequacy Ratio, Credit Risk, Return on Assets and Return on Equity.*

# CHAPTER- I

# INTRODUCTION

## 1.1 Background of the study

Risk management Strategies is a part of the financial structure and refers to the proportion of the various long-term sources of financing. It is concerned with making the array of the sources of the funds in a proper manner, which is in relative magnitude and proportion. The risk management strategies of a company is made up of debt and equity securities that comprise a firm's financing of its assets. Risk management strategies decisions are among the most important and crucial decisions for any business because of their effect on the performance of firms (Birru, 2016). It is important because of the need to maximize returns of the firms, and because of the impact, such a decision has on the firm's ability to deal with its competitive environment (Abor, 2005). The relationship between Risk management strategies and financial performances is considerable importance to all banking industry. The banking industry is especially sensitive to changes in financial leverage due to their low level of equity capital to total assets (AL- Kayed et al., 2014). In addition, the Risk management strategies of banks is highly regulated. One of the important issues during the Risk management strategies decision-making is to deal with the determination of optimal Risk management strategies of the firm (Chandra & Sharma, 2015).

Risk management strategies is primarily interested in how the company chooses to split its cash flows into two main parts: a fixed part that is set aside to satisfy debt capital commitments and a residual part that is owned by equity owners. Diverse writers have provided distinct definitions for risk management tactics. Any corporate organization's ability to continue operating and providing value to its stakeholders depends on its choice of risk management solutions (Akintoye, 2008).

The main focus of risk management techniques is how the company chooses to split its cash flows are divided into two primary categories: a residual portion owned by equity owners and a fixed portion set aside to pay debt capital commitments. Consequently, the breakdown of the money raised from various sources, which is frequently divided into debt and equity, is implied by risk management measures. It can be described as the percentage of total

capital that will be invested in a corporation over an extended period of time, divided between equity and debt. Strategies for risk management focus on the quantitative side. An enterprise's choice regarding its risk management measures pertains to the percentage of these securities (Gerestenberg, 2019).

Numerous empirical studies conducted in the developed world, including the United States, have discovered a relationship between firm risk management tactics and the following firm characteristics: firm size, tangibility, profitability, tax shield, growth, and risk level. Numerous research projects have been undertaken to examine the connection between performance and financial leverage. Akintoye (2008) and Dare & Sola (2010) found a positive correlation between risk management techniques and performance, while Iorpev & Kwanum (2012) found a negative correlation. Nonetheless, some studies have found no link between Risk management strategies and performances (Prahlathan & Rajan 2011). This approach facilitates the identification of the ways in which interactions between risk management methods vary throughout enterprises at various leverage distribution quintiles. Because the Nigerian capital market is biased towards equity methods of financing, which comes with a higher cost of capital and significant financing constraints for firms, raising funds on the market has consistently shown to be difficult (Kolawole, Ijaiya, Sanni & Aina, 2019). It is detected that investors tend to pull out their share investment which led to declining stock prices in particular bank stocks (Abubakar, Jagongo, Almadi & Muktar, 2014).

This study intends to improve on the discourse by looking to improve on previous studies by considering the net interest margin variable, because interest form the major source of revenue for deposit money banks. The identified neglected area by the previous studies is very important and hence constitute the research gaps. The result of this study is important to policy makers for policy guide, financial managers in banks would be able to know the way out of their dilemma in which investments policy to pursued (Onoja & Ovayioza, 2015). Thirdly, the relative significance of the determinant variables of risk management techniques at various leverage distribution points for a corporation can be assessed by this study. The business ramifications of these findings may result in a modification of bank lending (borrowing) practices in Sri Lanka and other emerging economies of a similar nature

(Wellalage, 2015).

The instrumental variables technique to address a potential erogeneity issue. It was discovered that asset tangibility and average industry leverage were useful tools for leverage in ROA specification. The same U-shaped correlation between leverage and ROA was seen by us. The results for TFP and EBIT margin criteria are less clear because it appears that we were unable to locate reliable instruments (Iavorskyi, 2013). In order to identify the driving forces behind, the researcher looks at a large number of linear regressions in our investigation, which culminates in a model that includes the key variables that influence changes in risk management tactics. We have improved our regression framework, which can serve as the basis for a lot of future research (Seferiadis, 2012).

In the context of manufacturing companies in Nepal, the concept of Risk management strategies pertains to the strategic blend of debt and equity utilized to finance operational needs and investments. Manufacturing companies often require substantial capital for setting up and maintaining production facilities, purchasing raw materials, and meeting other operational expenses. Achieving an optimal Risk management strategies is crucial, as it directly influences the cost of capital and, consequently, the company's financial health. Effective financial performance analysis for these manufacturing firms involves scrutinizing key indicators such as profitability ratios, liquidity metrics, debt management, and operational efficiency. Assessing the market performance and competitiveness within the industry further contributes to a comprehensive understanding of a company's overall financial standing.

### 1.2 Problem Statement

Every organization must make decisions about financing its assets, and the finance manager is frequently faced with the challenge of determining the ideal ratio between debt and equity. Generally speaking, the right amount of debt to equity capital should be used to finance the company's assets. Typically, risk management plans are created with equity shareholders' interests in mind. As a result, a portion of the long-term capital may be raised as a loan in the form of a bond or debenture by paying a fixed yearly charge, as opposed to collecting the entire fund from shareholders. Even though the business views these payments as expenses, this financing strategy is used to better serve the interests of common

shareholders. Risk management techniques increase a company's market worth; that is, a company with a well-designed by using risk management techniques, the total worth of the shareholders' ownership interests and claims is increased. Systems that use both debt and equity to finance a company's operations in order to maximize returns for stakeholders while allowing for a certain degree of risk are referred to as risk management methods (Dada & Ghazali, 2016).

Risk management strategies maximizes the company’s market price of share by increasing earnings per share of the ordinary shareholders. Additionally, it enhances the stockholders' dividend receipts. Using risk management techniques improves the company's capacity to identify fresh investment opportunities that generate wealth. Appropriate capital gearing also boosts debt providers' confidence. Risk management techniques raise the nation's investment and growth rate by giving the company more chances to make future investments that will generate income. Numerous research studies have been conducted to examine the correlation between financial leverage and performance. According to some research, risk management techniques and performance are positively correlated (Akintoye 2008; Dare & Sola, 2010, & Tayyaba, 2013).

Kerim, Alaji, and Guiltless (2019) inspected the impact of Risk management strategies on Benefit of Nigerian recorded protections firms from 2013 to 2017 utilizing auxiliary information from 15 recorded protections companies 75 perceptions. The findings revealed that short-term obligations had a considerable detrimental effect on productivity. Even so, long-term commitment has a crucially beneficial effect. Furthermore, Premium development contributes positively to benefit. The preceding discussion demonstrates how important it is to consider risk management techniques administration and how they affect bank and protections firm execution. Despite the fact that many discoveries are made in foreign contexts. None of them used later knowledge to establish the Nepali context. A company typically uses two sources of funding: ROE and ROA. Since a new business has not yet established its creditworthiness in the market, it is unable to obtain the necessary money and must instead rely solely on equity shares, which is a basic kind of risk management strategy. Once its trustworthiness has been established in the market, its risk management techniques progressively get more intricate. in order for the current study to close the gap in the

insurance sector. The study's goals looked at how risk management techniques affected Nepali insurance companies' financial results. (Pradhan, 2016).

To look at the relationship between Risk management strategies and firm esteem in Bangladesh, (Chowdhury & Chowdhury, 2010) utilized share cost as a intermediary for esteem and distinctive proportions for Risk management strategies choices. The compelling conclusion suggests that, in order to maximize shareholder wealth, the perfect balance between obligation and value must be maintained, even though taking a toll on capital has a negative association with this decision and should be minimized. It also seems that altering the composition of a company's risk management techniques across its life phases can improve its reputation. In any event, it appears that finance managers can use this as a vital strategy to develop optimal risk management techniques in order to optimize shareholder wealth. In agreement with Utami and Inanga (2012), businesses at different phases of their life cycle exhibit a variety of traits, particularly with regard to data asymmetry. Compared to develop firms, development firms exhibit greater data asymmetry. Since established and more seasoned businesses are typically more sought after by regulators and are far more well-known to investors, they should have less data asymmetry challenges. This hypothesis identified a relationship between the firm's life structure and risk management techniques. According to this theory, the phases of birth and growth are typical of a more effective use of responsibility than value. The developing enterprises lower their debt levels, which then climb again in the decreasing plan.

In arrange to assess how the company has done over the past few a long time in terms of its income spoken to in rate terms, firm development was measured as the rate alter in income amid the ponder period (Abdullahi & Suleiman, 2020). Since rising firms favor inside created cash, the trade-off theory predicts a negative connect between firm development and use. The researcher found prove to bolster their claim that short-term obligation is emphatically associated with firm development which businesses with tall development rates have a greater requirement for working capital. Since businesses may be prepared to shoulder the burden of long-term obligation when there’s a chance for a productive venture, especially when their inside source of back is limited, this is likely to happen within the country (Ezeani, 2019).

Salim and Yadav (2012) have found that company financial performance ROA, ROE and EPS, adversely influence on long term debt ratio (LTD), short term debt ratio (STD) and total debt ratio (TD), while growth positively effects on financial performance for all the sectors in Malaysia. Therefore, this study was conducted to smack the gap. This study stated the following research questions.

i. What is the risk management strategies and financial performance of manufacturing companies in Nepal?
ii. Is there any the relationship between risk management strategies and financial performance of manufacturing companies in Nepal?
iii. What is the impact of risk management strategies on financial performance of manufacturing companies in Nepal?

### 1.3 Objectives of the Study

The main objective of this study is to analyze the risk management strategies of Nepalese Manufacturing Companies. The specific objectives of this study are as follows:

i. To assess the risk management strategies and financial performance of manufacturing companies in Nepal.
ii. To examine the relationship between risk management strategies and financial performance of manufacturing companies in Nepal.
iii. To analyze the impact of risk management strategies on financial performance of manufacturing companies in Nepal.

### 1.4 Rationale of the Study

The project's outcomes will enable a reevaluation based on a review of risk management measures to determine the relationships between Chaudhary Group's manufacturing company's debt, equity, and assets. This problem will assist the Chaudhary Group in analyzing the role that manufacturing companies' debts, equity, and assets have in return on assets (ROA) and return on shareholder equity (ROE). This study aims to determine how Chaudhary Group assets are dependent on debt and equity, as well as to evaluate the impact of debt on Chaudhary Group assets and the influence of equity on Chaudhary Group assets.

## 1.5 Limitations of the Study

The limitation of the study is depicted as under.

i. Difficulty in accessing affordable finance or facing high-interest rates can limit manufacturing companies' ability to invest in modern technology, research and development, and overall expansion.

ii. Nepalese manufacturing companies may face tough competition from global players, especially if they lack innovation, technological advancements, and effective marketing strategies.

iii. This study has concentrated only Risk management strategies and financial performance analysis of five manufacturing companies i.e., Nepal Liver Ltd, Chaudhary Group, Nepal Distillery Pvt. Ltd, Gorkha Brewery Pvt. Ltd and Jagadamba Steel Industries Pvt. Ltd because these are top listed manufacturing companies in Nepal.

iv. This study is based by on past ten year's data ranging from fiscal year 2013/14 to 2022/23 because to consider log-term trends and patterns, providing a more comprehensive understanding of the subject matter.

v. This study is not applicable to all manufacturing companies since it is considered to five manufacturing companies in Nepal.

vi. Insufficient education and training programs may result in a shortage of skilled labor, impacting the quality and efficiency of manufacturing processes.

vii. Nepali manufacturing companies may face stiff competition from global players. Lack of innovation, technological advancements, and limited marketing capabilities could make it challenging for manufacturers to compete on a global scale.

# CHAPTER-II
# LITERATURE REVIEW

## 2.1 Introduction

This chapter examines the existing literature on risk management techniques and analyzes the manufacturing sector in Nepal. By reviewing previous studies and relevant literature on the topic, it generates unique ideas, perspectives, and conceptual frameworks for research inquiries. This process offers guidance in addressing claims, actions, and writings related to the analysis of risk management strategies in manufacturing companies. It is important to note that a literature review serves as a secondary data source and does not present new or original experimental findings. Key resources for literature reviews include academic journals, books, research papers, and other scholarly works, which collectively establish a solid foundation for further study.

Risk management strategies are critical components in the financial performance of organizations, particularly in the manufacturing sector. These strategies involve identifying, assessing, and mitigating potential risks that could adversely affect a company's financial health and operational efficiency. By effectively managing risks related to market fluctuations, credit exposure, operational failures, and regulatory compliance, manufacturing firms can enhance their stability and ensure sustainable growth. Implementing robust risk management practices not only safeguards assets but also fosters a culture of proactive decision-making, enabling companies to navigate uncertainties in a rapidly changing economic landscape.

The relationship between risk management and financial performance is well-documented, as effective risk management can lead to improved profitability, increased shareholder value, and enhanced competitive advantage. Companies that adopt comprehensive risk management frameworks are better positioned to respond to unforeseen challenges and capitalize on emerging opportunities. Financial performance metrics, such as return on assets (ROA), return on equity (ROE), and profit margins, serve as indicators of how well a company manages its risks in relation to its overall financial outcomes. By prioritizing risk management, manufacturing companies can not only protect their financial interests but also achieve operational excellence, thereby securing their long-term viability in a competitive

market. Different authors have provided distinct definitions for risk management techniques. Any corporate organization's ability to continue operating and providing value to its stakeholders depends on its choice of risk management solutions (Akintoye 2008).

The main focus of risk management techniques is how the company chooses to split its cash flows into two main categories: a fixed component that is set aside to pay debt capital commitments and a residual component that is owned by equity owners. Therefore the composition of funds raised from diverse sources, often categorized as debt and equity, is implied by risk management measures. It can be described as the percentage of total capital that will be invested in a corporation over an extended period of time, divided between equity and debt. Strategies for risk management focus on the quantitative side. An enterprise's choice regarding its risk management measures pertains to the percentage of these securities (Gerestenberg, 2019).

Since the late 1990s, risk management solutions have been the subject of much research since leverage levels affect company growth and investment. Three major hypotheses form the foundation of a generally recognised explanation of corporate risk management techniques. First, the pecking order concept implies that internal funds are a firm's first choice when it comes to financing, followed by debt and then equity. Second, based on the trade-off hypothesis, businesses will determine the best risk management techniques by weighing the advantages and disadvantages of taking on more debt.

Third, agency theory notes that the degree of knowledge asymmetry between managers and investors dictates a firm's best risk management tactics. Numerous empirical studies conducted in the developed world, including the United States, have discovered a relationship between firm risk management tactics and the following firm characteristics: firm size, tangibility, profitability, tax shield, growth, and risk level. Numerous research projects have been undertaken to examine the connection between performance and financial leverage. Akintoye (2008) and Dare & Sola (2010) found a positive correlation between risk management techniques and performance, while Iorpev & Kwanum (2012) found a negative correlation. However, according to other research, there is no connection between performance and risk management techniques (Prahlathan & Rajan 2011).

First, the researcher looks at how business risk management techniques have changed in the UK over the past three decades using descriptive statistics. Subsequently, the researcher looks into whether the data from current empirical models can account for the variations in debt and equity issuance. Finally, in the event that these models are unable to account for the changes, the researcher looks at the types of causes influencing variations in financial policy. In order to identify the driving forces behind, the researcher looks at a large number of linear regressions in our investigation, which culminates in a model that includes the key variables that influence changes in risk management tactics. We have improved our regression framework, which can serve as the basis for a lot of future research (Seferiadis, 2012).

We investigated the link between risk management strategies and firm performance using a sample of 16.5 thousand Ukrainian firms. We discovered that the free cash flow theory of risk management techniques is not followed by the debt behavior of Ukrainian businesses. Leverage in particular has been shown to have a negative impact on the operating profit margin, total factor productivity, and return on assets when used to measure business performance. When using long-term interest-bearing debt as a substitute for total interest-bearing debt, the alleged relationship between leverage and business performance is still constant.

However, it turned out that just two industries manufacturing and transportation/energy have the association when the analysis was repeated for different industrial subsamples. We used the instrumental variables technique to address a potential erogeneity issue. It was discovered that asset tangibility and average industry leverage were useful tools for leverage in ROA specification. The same U-shaped correlation between leverage and ROA was seen by us. The results for TFP and EBIT margin criteria are less clear because it appears that we were unable to locate reliable instruments (Iavorskyi, 2013).

Strategies for managing risks are crucial to the planning and execution of a business's operations. A company's decisions and operations influence its risk management plans. This research aims to explore the firm-specific factors that influence risk management techniques in Turkey's dynamic economic environment. The study uses panel data analysis for manufacturing companies that were listed between 2003 and 2011 on the Borsa Istanbul

(BIST). The findings demonstrate that the observed leverages, which are primarily composed of short-term indebtedness, cannot be sufficiently explained by well-established theories such as trade-off, pecking order, and market timing. This result is expected given that the majority of these theories' presumptions—which do not apply in developing nations—are valid only in developed markets (Risk management methods in An Emerging Stock Market, 2015).

One of the most crucial decisions in corporate finance is the financing choice. A question that financial directors must consider is: What is the ideal ratio of debt to equity to use to fund a company's operations? The goal of this article is to provide a theoretical and empirical understanding of the development of the notion of risk management strategies. Consideration is given to the main competing theories of risk management techniques and their prognostications. It is shown that the risk management methods of organizations are determined by a set of consistently significant firm level attributes. The essay also draws comparisons and contrasts between the results of empirical research on risk management measures carried out in industrialized and developing nations. One could argue that the financial markets in emerging nations are less developed, which may prevent the corporations from adapting to reach their goal debt levels. In the end, it is shown that there are considerably more parallels in finance patterns between emerging markets and established countries than differences (Sibindi, 2016).

## 2.2 Theoretical Review

Theoretical reviews on risk management strategies and financial performance analysis of manufacturing companies in Nepal typically encompass various key concepts and theories related to risk management strategies decisions and financial analysis. Some potential theoretical reviews may include.

### 2.2.1 Risk Management Strategies Theory of Modigliani and Miller

The irrelevance theory of risk management strategies developed by Modigliani and Miller in 1958 is regarded as the foundational work for contemporary risk management strategy theory. Based on presumptions about investor behavior and the capital market, MM shows that a firm's risk management tactics have no bearing on the value of the company. Securities are traded in a perfect capital market where there is no information asymmetry and all

pertinent information is available for insiders and outsiders to make decisions. As a result, there are no transaction costs, bankruptcy fees, or taxes. Firms and private investors can borrow and lend money at the same interest rate, allowing for homegrown leverage. Additionally, firms operating in the same risk class can have identical operating leverage, interest paid on debt is tax deductible, and 100% of dividends are paid to shareholders. Under these presumptions, MM theory demonstrated that risk management techniques have no bearing on a shareholder's wealth and that there is no ideal debt to equity ratio. This preposition, which asserts that the value of a levered firm is equal to the value of an unlevered firm, was put forth by MM (1958) in their groundbreaking study. As a result, they suggest that managers should not worry about risk management techniques and that they have complete control over the debt to equity ratio. Significant additions to the MM methodology come from Stiglitz (1969) and Hirshleifer (1966). Additionally, they assert in their Proposition II that a rise in leverage raises the firm's risk and, hence, raises the cost of stock. However, because the cost of debt is offset by the greater cost of stock, the firm's WACC stays unchanged.

Although theoretically extremely good, risk management methods irrelevance theory was predicated on a number of false assumptions. As a result, a great deal of study on risk management techniques was prompted by this notion. Their proposal made sense in principle, but in practice, a society without taxes was not feasible. Modigliani and Miller (1953) included the impact of taxation on business value and cost of capital to increase accuracy. Because of the tax shelter provided by corporation taxation, the value of the company increases as leverage increases. Interest on loan capital is an allowable deduction from the company's revenue, which lowers the company's net tax obligation. This would reduce the company's capital cost, which would be an additional benefit of using loan financing. Problems with MM theory led to a number of studies aimed at demonstrating irrelevance in both theoretical and empirical contexts. Based on the MM theorem, numerous alternative theories that support the risk management techniques theorem have also been established, and it is very difficult to validate any of them. The MM theorem has flaws, yet they cannot be entirely disregarded or discarded.

### 2.2.2 Trade off Theories

One of the fundamental hypotheses that has dominated the field of risk management methods suggests that the ideal debt level is reached when the marginal cost and benefit of debt financing are equal. By modifying the amount of debt and equity, a company can get an ideal risk management strategy that balances the costs associated with financial hardship and the tax shield. Researchers cannot agree upon what constitutes a benefit and a cost. Myers (1984) used the trade of theory as a theoretical foundation to answer the "Risk management strategies Puzzle" after removing the limitations of his risk management strategies irrelevance premise. According to Myers (1977), using debt to a certain extent can help reduce the expense of interest tax shielding and financial suffering.

According to Fama and French (2002), the advantages of debt tax deductibility of interest as well as the cost of bankruptcy and agency costs can be used to determine the best risk management techniques. Researchers continue to test the trade-off theory using the original assumptions because these theoretical and empirical studies completely replace the traditional form. There is conflicting data in the literature supporting and opposing the trade-off model and ideal risk management techniques. Titman and Wessels (1988) discovered a favorable correlation between the use of borrowed capital in risk management techniques and the non-debt tax shield.

### 2.2.3 Pecking Order Theory

The pecking order theory suggests that companies prefer internal financing, such as retained earnings, over external financing, such as debt or equity. This theory posits that firms have a hierarchical preference for funding sources and only resort to external financing when internal funds are sufficient. Examining manufacturing companies in Nepal, a review could analyze how this pecking order theory applies, and whether firms rely primarily on internal financing or actively pursue external sources. Pecking order theory is put out by Myers and Majluf (1984) under the assumption of a perfect capital market, as suggested by MM (1958). This theory is based on Donaldson's (1961) findings, which show that management prefers to use domestically generated funds rather than external ones. Pecking order theory describes how companies use internal money first, issue debt, and then issue equity capital as a last resort. It suggests that companies prefer internal finance over borrowed capital.

Firms prefer to finance new initiatives with internally produced money first, followed by loan capital, and equity issues as a last resort, according to Tally (2014).

Pecking order theory also clarifies why companies borrow more when their own resources are insufficient to cover their investment requirements (Shyam-Sunder and Myers, 1999). This is corroborated by Myers (2001), who discovered that a company's debt ratio represents the total amount of outside funding and that companies with larger profit margins and more room for expansion would require less borrowed capital. Profits are kept on hand if the company has no avenues for outside investment in order to prevent further borrowing. Since the firm's debt ratio is not ideal, the debt ratio further shows the total amount of outside finance. The goal of risk management strategy decisions is to remove information asymmetry-related inefficiencies. Firms avoid capital markets for two reasons: separation of ownership and information asymmetry between insiders and outsiders. It says that a company's debt problem communicates to the market that the company is a great company whose management is not scared of debt financing.

### 2.2.4 Market Timing Theory

According to the market timing hypothesis of risk management techniques, companies repurchase shares at an undervalued price and issue new equity when their share price is overvalued. Share price fluctuations have an impact on the firm's risk management measures as well as corporate finance decisions. It states that while equity transactions are entirely timed to stock market conditions, market timing theory does not shift to target leverage in accordance with the pecking order theory of risk management measures. This suggests that adjustments to risk management plans brought about by coincidental market conditions are permanent. The negative relationship between gearing ratios and historical stock performance is explained by this preposition. It did, however, suggest that, over time, market timing has little bearing on the firms' risk management plans. Verifying the same, Alti (2006) demonstrates that the influence of market timing on gearing will completely disappear in a two-year period.

## 2.3. Empirical Review

The empirical review encompasses a comprehensive examination of existing literature and studies related to the financial performance of manufacturing companies, particularly focusing on the interplay between risk management strategies and various financial metrics. It highlights key findings from previous research that identify significant correlations between profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE) with liquidity ratios and capital adequacy measures. Studies consistently demonstrate that effective liquidity management and capital adequacy are crucial for enhancing financial stability and performance in the manufacturing sector. The empirical review offers valuable insights into the factors influencing financial performance and the strategic implications for manufacturing firms seeking to optimize their risk management approaches and overall profitability.

### 2.3.1 Empirical Review of International Journals and Articles

Arhinful, Mensah, and Sarfo (2023) examined how risk management strategies (capitalization ratio and debt/EBITDA ratio) affects the financial performance of Ghanaian financial institutions. The study selected 15 financial institutions in Ghana using a purposive sampling strategy. Ten (10) financial institutions are listed on the Ghana Stock Exchange, while the remaining five (5) are not. Data were collected from their audited annual reports. Stata software analyzes the data into fixed and random effects. Hausman specification testing was used to determine the appropriate method for presenting study results. Random effects were considered the appropriate method to present study results. The researcher believes that the capitalization rate has a negative impact on net interest margin, loan-to-asset ratio, and return on assets. Debt-to-EBITDA ratio was found to have a negative impact on net interest margin and return on assets, but a positive impact on loan-to-asset ratio. Debt-to-EBITDA ratio was found to have a statistically significant impact on net interest margin and return on assets. The main findings of the study are that financial institutions listed on the Ghana Stock Exchange have a statistically significant impact on net interest margin. On the other hand, financial institutions that are not listed are not. The use of debt financing was found to have a statistically significant impact on the performance of financial institutions compared to equity financing.

Nageri and Salami (2022) examined the impact of Risk management strategies on net interest margin of money banks in Nigeria. Panel data analysis was used, analyzing both fixed and random effects models. The research subjects include 14 banks listed on NSE. The sample includes six systemically important banks in Nigeria and was conducted between 2012 and 2020. The results show that long-term debt to total assets and total debt to total assets are significant factors. Statistical significance determines the net profit margin in deposit money banks in Nigeria, while total equity to total assets, total assets, risk and income tax expense relate to pre-tax profit is not a statistically significant determinant of the net interest margin of deposit money banks in Nigeria. Therefore, the result shows that the net interest margin of bank deposits in Nigeria is statistically significantly determined by long-term debt and equity.

Deyganto (2021) examined the determinants of Risk management strategies in financial institutions: Evidence from selected microfinance institutions from Ethiopia. The researcher used a quantitative research method with an explanatory research design. Regression analysis results show that variables such as growth, profit, company size, age and asset tangibility have a positive and statistically significant impact on the leverage ratio. While profitability has a negative and statistically significant impact on risk management strategies. Based on the findings of the study, the researcher concluded that the specific factors that determine the Risk management strategies of microfinance institutions in Ethiopia are growth rate, profitability, enterprise size, age and tangibility of the asset.

Hajisaaid (2020) examined the relationship between Risk management strategies and profitability of eight companies working in the basic material sector in Saudi Arabia during the period 2009 to 2018. Regression analysis, the fixed effect model, the random effect model, and the Housman test are the statistical methods employed. The return on equity (ROE) is the dependent variable. On the other hand, the ratios of total debt to assets (DA), long-term debt to assets (LDA), and short-term debt to assets (STDA) represent the independent variables. The findings show that the return on equity (ROE) and the ratio of short-term debt to total assets (STDA) are negatively correlated. There is a positive correlation between profitability and total debt (DA) and a negative correlation between the long-term debt to total assets ratio (LDA) and return on equity (ROE).

Henry et al. (2020) examined the risk management and financial performance of banks in Nigeria, specifically targeting commercial banks. Its primary objective was to determine how risk asset management impacts the financial performance of these banks. Utilizing a longitudinal survey approach, the research employed an ex-post facto design. Data analysis was conducted using the Generalized Method of Moments (GMM) and Vector Error Correction Model, following tests and adjustments for stationarity and integration. The findings revealed that, in the short term, banks' profitability is significantly affected by liquidity risk, while in the long term, it is influenced by credit risk, capital adequacy risk, leverage risk, and liquidity risk. Additionally, profitability, as measured by Return on Average Assets (ROA), showed a positive correlation with liquidity risk but a negative correlation with credit risk. Based on these findings, it is crucial for banks to implement effective risk management strategies, particularly concerning credit, capital adequacy, leverage, and liquidity risks, to improve profitability. By strengthening the financial stability of banks, effective risk management can also help reduce layoffs and unemployment, thereby mitigating related social issues.

Ali and Faisal (2020) analyzed the impact of risk management strategy on performance on the success of business organizations. The ratio of internal to external capital, or debt to equity, is referred to in a company organization's risk management techniques. Petrochemical firms in Saudi Arabia are equity-based, however their financial performance shows a downward trend from 2004 to 2016. The secondary data used in the study can be found on the websites of Saudi Arabian petrochemical corporations. The degree of financial volatility and sensitivity of a business organization's financial ratios is measured and compared using financial ratio trend index and financial ratio volatility analysis. To determine how changes in debt equity affect other dependent variables, one must compute the correlation between the trend indexes (TICBI) of the independent and dependent variables. The findings demonstrate the petrochemical businesses' surprising performance as a result of underusing their resources as a result of low demand and declining product prices brought on by a variety of internal and external variables. Research indicates that the variables driving the overall growth of China's petrochemical industry are scale, demand, production costs, profitable product lines, and low-cost capital from foreign sources. Saudi a kingdom.

Muhammad et al. (2019) examined that foreign penetration in terms of assets and branches has different impacts on credit risk in the banking sector. Generally speaking, bad debts will be made worse by a larger percentage of foreign banks' total assets, but credit risk will be decreased by an increased number of foreign banks. Furthermore, the degree of banking competition and the economic standing of the nation influence how much of a role international banks can play in reducing credit risk. When bank concentration surpasses a threshold, but not bank market dominance, a larger foreign bank branch ratio can help lower bad debt. The impact of these findings is greater in emerging markets. Furthermore, the theory of losses from banks' larger non-interest income can help to explain part of the higher bank credit risk caused by foreign penetration and banking rivalry. Given the shifting levels of foreign penetration and competition in the banking sector, the banking industry should be encouraged to refrain from using cross-selling tactics to increase non-interest income.

Bilgin and Dinc (2019) examined the firms that engage in factoring as an external financing option. Factoring is generally considered as a costly option. Once a company reaches a particular amount of debt, though, growing it could have a detrimental impact on the value of the company, therefore at that point, they might prefer factoring financing. The influence of factors on the choices made regarding risk management strategies has received far too little consideration up to this point. This study represents an initial effort to present a theoretical framework and empirical data regarding the influence of factoring on risk management tactics. A sample of 261 Turkish publicly traded companies is used to build a fractional regression model for the years 2012-2017. The study's main conclusion was that, while factoring influences risk management tactics for leveraged organizations, it has no bearing on the decision to leverage in the first place. The association between rising factoring and increased leverage is another important result.

Cagll (2019) investigated the potential presence of explosive behavior in the Turkish real estate market. During the period from January 2010 to December 2017, the researcher uses the method established to co-movement systems with explosive processes in the monthly housing price index and housing unit prices. The results were presented using regression analysis and correlation. The findings of the experiment demonstrate that both the regional and national price indices have an explosive character. Certain regions have more active real

estate markets than the overall market, as can be shown by examining the link between the national price index and the regional price index.

Azmi et al. (2019) analyzed the concept of doing good while doing well by examining the performance of equity, sustainability and sustainability indicators and comparing them with the market Standard world stocks. We specifically address three major issues that worry the majority of investors :(i) What is the global portfolio's efficient frontier, comprising the four distinct stocks? (ii) What factors contribute to these variations in index performance? And (iii) do these four indices' volatility and performance change over time and under different regimes? To display the data, regression analysis was performed. All things considered, the findings demonstrate that there is no cost for investors to participate in sustainable or Islamic stock indices. In actuality, there will be more gains from combining Islamic and sustainable investing practices, particularly in times of economic expansion, bull markets, and subprime crises. Implications for policy are given.

Miko and Para (2019) examined on the impact of financial structure on the profitability of manufacturing companies in Nigeria. A sample of 39 manufacturing companies that are listed on the Nigerian Stock Exchange are examined in this study. The variables include loan financing, equity financing, and debt-to-equity financing. Regression analysis with ordinary least squares was used to analyze the data. The findings indicate that the profitability of Nigerian manufacturing enterprises is significantly impacted by debt financing, equity financing, and loan financing combined with equity. The study came to the conclusion that listed manufacturing companies in Nigeria perform better when their financial structure is well-maintained. The study suggests that in order to boost profitability, managers need appropriately handle debt.

Raman et al. (2019) conducted a study on the impact of risk management strategies on profitability of publicly listed manufacturing companies in Bangladesh. The association between independent variables (debt ratio, equity ratio, and debt-to-equity ratio) and other variables was determined in this article using fixed effects regression. Dependent variables include earnings per share, equity, return on assets, and return on equity. According to this study, ROA is significantly impacted positively by both the debt and equity ratios, but negatively by the debt to equity ratio. This study also demonstrates that ROE is significantly

impacted positively by the equity ratio and negatively by the debt ratio. Lastly, EPS is greatly impacted negatively by debt and equity ratios.

Ajibola, Wisdom and Qudus (2018) examined the research on impact of risk management strategies on financial performance of quoted manufacturing firms in Nigeria overthe period 2005-2014. The financial performance of Nigerian listed manufacturing companies is examined in relation to risk management techniques using the panel method. The findings of the ordinary least squares table indicate that the long-term debt ratio (LTD), total debt ratio (TD), and return on equity (ROE) have statistically significant positive relationships, but the return on equity (ROE) and its positive association are not statistically significant. STD (short-term debt ratio) and equity. Additionally, all measures of risk management strategies (LTD, STD, and TD) have a negligible negative association with ROA; hence, ROE is a more accurate predictor of performance. The study comes to the conclusion that businesses should rely more on long-term debt and that risk management techniques have a beneficial effect on financial success.

Basit and Irwan (2018) examined the impact of risk management strategies on corporate performance of a listed industrial products company in Malaysia. The debt ratio, total debt ratio, and total equity ratio were the independent variables employed in this investigation. As dependent variables, return on equity (ROE), return on assets (ROA), and earnings per share (EPS) are used to gauge how well a company is doing. The data in this study were analyzed using multiple regression and descriptive statistics. This study demonstrates how industrial goods businesses' risk management tactics heavily rely on equity capital. Additionally, the regression results indicate that while the debt to equity ratio negatively affects ROA, the influence of the overall debt and equity ratios on ROA is negligible. ROE is negatively impacted by debt to equity, positively by total debt, and negligibly impacted by total equity. Moreover, the return on equity (ROE) is negatively impacted by the debt-to-equity ratio, positively by total debt, and negligibly by total equity. In summary, the earnings per share (EPS) is significantly impacted negatively by the debt-to-equity ratio, positively by the total debt ratio, and marginally by the total debt. In conclusion, industrial product companies looking for debt financing can minimize agency issues and reap tax benefits; nevertheless, the performance of the business will suffer if the amount of debt exceeds the

best risk management practices. The industry, managers, shareholders, investors, and next researchers will all gain from this research. Large sample sizes and other factors should be used, according to future study, to ascertain how risk management techniques affect business success.

Ashraf, men, and Shahzadi (2017) analyzed studies on the impact of risk management strategies on corporate profitability and explored the optimal risk management strategies of the cement industry in Pakistan. Over a ten-year period, from 2006 to 2015, information was gathered from eighteen companies that were listed on the Karachi Stock Exchange (KSE). In contrast, risk management methods determinants such as debt ratio (DER), interest coverage ratio (ICR), debt ratio (DR), short-term debt ratio (STDR), and long-term debt ratio (LTDR) were used to determine the profitability of the company. Using E-Views, descriptive, correlational, and tabular least squares findings were obtained using balanced panel data. The findings indicate that while short-term debt has a substantial positive association with ROA and ROE, the debt-to-equity ratio and long-term debt ratio have a significant negative link with ROA and ROE.

Kalyani and Mathur (2017) examined the impact of risk management strategies on the overall profitability of a company. Together with the impact of the independent variables of the company's revenue, total assets, debt service capacity, and dividends, the financial performance of the business is evaluated. This is represented by the dependent variables ROA (return on assets) and net profit margin. The firms participating in the Indian oil and gas industry were chosen for analysis based on their payouts, level of financial leverage, and level of operating leverage. For this study, financial data from a sample of seven companies that are listed on the NSE and BSE was used between 2005 and 2015. To estimate functions associated to profitability as measured by return on assets and net profit margin with measurements of risk management strategies, correlation and regression analysis are utilized. The study shows that when the dependent variables are ROA and log assets, degree of financial leverage, log revenue, degree of operating leverage, and asset growth have a significant relationship, then these variables are important in determining profitability. With the net profit ratio of particular Indian oil and gas industry corporations.

**Table 1**

*Summary and Empirical Review at International Context*

| S.N | Authors | Objectives | Research methodology | Findings |
|---|---|---|---|---|
| 1. | Arhinful, Mensah & Sarfo (2023) | To examine how capital structures (capitalization ratios and debt-to-EBITDA ratios) affect the financial performance of Ghanaian financial institutions. | Correlation coefficient and multiple regression was used. | It was found that return on assets and net interest margin were statistically significantly impacted by the debt-to-EBITDA ratio. Financial institutions that are not mentioned, however, do not. When compared to equity financing, the usage of debt financing was found to have a statistically significant effect on financial organizations' performance. |
| 2. | Nageri & Salami (2022) | To examine the impact of capital structure on the net interest margin of deposit money banks in Nigeria. | Panel data analysis was employed, analyzing the fixed effect and random effect models was used. | The study discovered that long-term debt and equity had a statistically significant impact on the net interest margin of deposit money institutions in Nigeria. Because the amount of leverage used in the capital structure has a substantial impact on the bank's net interest margin, the study advised Nigerian deposit money institutions to be aware of this. |
| 3. | Deyganto, (2021) | To examine the determinants of capital structure in financial institutions: Evidence from selected Micro Finance Institutions of Ethiopia | Regression analysis was used. | The main conclusion of the study was that the leverage ratio is positively and statistically significantly impacted by a number of variables, including asset tangibility, age, company size, growth, and profitability. Profitability, however, negatively and statistically significantly affects capital structure. |
| 4. | Hajisaaid (2020) | To examine the relationship between capital structure and profitability of eight companies working in the basic material sector in Saudi Arabia. | Regression analysis, fixed effect models, random effect models, and the Housman test are the statistical methods that were applied. | The findings show that the return on equity (ROE) and the short-term debt to total assets (SDA) ratio are negatively correlated. Profitability and total debt (DA) are positively correlated, but return on equity (ROE) and the long-term debt to total assets ratio (LDA) are negatively correlated. |
| 5. | Ali and Faisal (2020) | To analyze the financial performance, profitability, and capital structure affect an organization's potential to succeed in business. | Correlation and regression analysis was used. | The findings show that petrochemical companies performed better than projected because they did not fully use their resources, which was a result of low demand and reduced product prices brought on by a variety of internal and external reasons. |

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| 6. | Muhammad, Wahyoe , & Wahdi (2019) | To examine different effects on credit risk in banking are shown by the foreign penetration in terms of assets and branches. | Hypothesis was used. | The results are particularly noticeable in emerging markets. Furthermore, the loss-leader hypothesis, which is based on increasing bank noninterest revenue, helps to explain a portion of the higher bank credit risk caused by foreign penetration and bank competitiveness. |
| 7. | Bilgin & Dinc, (2019) | To examine the businesses that use factoring as a means of obtaining outside funding. Factoring is typically regarded as an expensive choice. | Fractional Regression Model was used. | Factoring influences a firm's capital structure, but it has no bearing on the decision to leverage initially, according to the empirical data in this research. The association between rising factoring and increased leverage is another important result. |
| 8. | Cagll (2019) | To investigate the possibility of increased activity in Turkey's real estate market. | Correlation and regression analysis was used to present data. | Both the regional and national price indexes exhibit explosive behaviour, according to the empirical findings. The national price index and regional price indices are compared, and it is discovered that certain locations have more competitive real estate markets than the overall market. |
| 9. | Azmi, Dewandaru, & Ruslan (2019) | To examine the performance of Islamic, sustainability, and Islamic sustainability equity indices and contrasting them with the global equity market benchmark in order to explore the idea of "doing well while doing good." | Regression analysis was used. | One of the study's main conclusions was that there is no cost to investors who want to invest in sustainable or Islamic equities indexes. Actually, it is more profitable to combine Islamic and sustainable investing practices, especially in times of economic expansion, rising stock markets, and the subprime crisis. Implications for policy are given. |
| 10. | Miko and para (2019) | To conduct the research on how Nigerian manufacturing companies' financial structures affect their profitability. | The data were analyzed using Ordinary Least Square regression technique. | One of the primary findings of the study was that investors can choose to invest in sustainable or Islamic stocks indices at no expense to them. Combining sustainable and Islamic investing strategies is actually more rewarding, particularly during periods of economic growth, soaring stock markets, and the subprime crisis. |
| 11. | Raman, Sharker and Uddinj (2019) | To conduct the capital structure affects the profitability of Bangladeshi publicly | Regression analysis was used. | The study's main conclusion was that while the debt to equity ratio significantly lowers ROA, the debt ratio and equity ratio significantly increase it. This study also reveals that while the debt to equity ratio |

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| | | traded industrial companies. | | significantly reduces ROE, the equity ratio significantly increases it. Lastly, the debt to equity ratio significantly reduces earnings per share. |
| 12. | Ajibola, Wisdom and Qudus (2018) | To examine the study of how capital structure affects the financial performance of Nigerian manufacturing companies that are publicly traded. | Panel methodology was applied to analyze to present data. | A positive statistically significant relationship has been found between the long term debt ratio (LTD), total debt ratio (TD), and return on equity (ROE) according to the panel ordinary least square results. However, there is a positive statistically insignificant relationship between ROE (return on equity) and STD (short term debt ratio). |
| 13. | Basit and Irwan (2018) | To examine the effect of capital structure on the industrial goods company's performance that is listed in Malaysia. | Descriptive statistics and multiple regression are used in this research to analyses the data. | According to the results, ROA is negatively impacted by debt to equity, whereas ROA is barely impacted by the total debt and equity ratios. ROE is negatively impacted by debt to equity, positively by total debt, and negligibly impacted by total equity. Aside from that, ROE is negatively impacted by debt to equity, positively by total debt, and negligibly impacted by total equity. |
| 14. | Ashraf, Amen and Shahzadi (2017) | To analyze the best capital structure for Pakistan's cement industry and examined the effect of capital structure on a company's profitability. | Descriptive, correlation and panel least square was used. | The findings show that whereas short-term debt has a significantly favorable association with both ROA and ROE, debt ratios and long-term debt have a significantly negative relationship with ROA and ROE. |
| 15. | Kalyani and Mathur (2017) | To examine the effect of a firm's capital structure on its overall profitability. | The correlations and regression analyses were used to present data. | The study's main conclusions were that, in cases where ROA and log assets are the dependent variables, operating leverage and asset growth are important factors in determining profitability. Additionally, there was a significant correlation found between the degree of financial leverage, log sales, operating leverage, and growth of assets and the net profit ratio. |

### 2.3.2 Empirical Review of Nepalese Journals and Articles

Bashyal and Bhandari (2023) examined the impact of Risk management strategies on the financial performance of insurance companies in Nepal. Panel least squares regression model is used to analyze balance data of 14 insurance companies for the period 2013 to 2020, with 126 observations. The ratio of total debt, equity to total assets, company size, and liquidity ratio and asset tangibility are independent variables and return on assets (ROA) is a dependent variable. Necessary data are collected from annual report on insurance form, financial and insurance statistics and insurance monitoring report published by central Bank of Nepal. Data were analyzed using pooled OLS models, random effects models, and fixed models. This study used a descriptive-comparative and causal-comparative research design. Similarly, Eviews-12 computer software is used for diagnosis, model tuning, and data analysis. Similarly, descriptive statistics, Pearson correlation analysis and multiple regression models were used in the study. The random effects model was used as the fitting model after model diagnostics using Eviews-12 computer software. The regression model shows that TDR has a negative and statistically significant impact on ROA, while ETTA has a positive and statistically significant impact on ROA. However, company size has a positive and statistically insignificant impact on ROA. The insignificant asset tangibility results indicate that asset tangibility cannot be considered an important variable for insurance operations. The results conclude that equity to total assets ratio, leverage and asset tangibility influence the financial performance of Nepali insurance companies.

Mahat et al. (2023) examined the performance of insurance companies in Nepal from the perspectives of enterprise risk management. The identification, assessment, mitigation, implementation, and management of risks are all factors that influence how well insurance companies function. A comprehensive, systematic questionnaire survey was administered to 100 respondents who were conveniently selected to represent key personnel from various insurance company branches in the Kathmandu valley. Step-wise regression and correlation were used in the analysis. The study's main conclusion suggests that while risk management and implementation have a negative effect on a company's performance, risk identification, risk assessments, and risk reduction have a favorable impact on the performance of insurance organizations.

Bhatt et al. (2023) examined the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal. It also looks at how credit risk management influences how well Nepali commercial banks function. The findings suggest that environmental risk and credit risk management are positively correlated. Additionally, it is discovered that credit risk management is significantly impacted by credit appraisal measurements. The findings show that credit risk management is significantly impacted by market risk analysis. The findings demonstrate that market risk analysis, credit assessment metrics, environmental risk, and commercial bank performance are all mediated by credit risk management. Therefore, in order to lower credit risk and achieve strong financial performance, managers should work to implement risk prevention and control measures.

Chalise and Adhikari (2022) examined the impact of Risk management strategies and firm size on the financial performance of Nepalese commercial banks. The study analyses secondary data sources and a sample of 14 commercial banks from the 2013–2018–2019 timeframe, comprising public, joint venture, and private banks. Functions linking return on assets (ROA) and earnings per share (EPS) to indicators of risk management tactics and company size (total assets) are estimated using regression analysis. The findings demonstrate that risk management techniques (debt/equity) have a negative association with ROA and EPS. On the other hand, it demonstrates that ROA and EPS increase with size (total assets). The findings offer proof in favor of the usage of senior equity capital in Nepali commercial banks' risk management plans.

Chhetri (2021) investigated the effect of credit risk on the financial performance of commercial banks in Nepal. To analyzed panel data from seventeen commercial banks with eighty-five observations from 2015 to 2020. Non-performing loans (NPLR) have a statistically significant negative influence on financial performance, according to the regression model (ROA).The bank size (BS) and the capital adequacy ratio (CAR) have a negative and statistically insignificant effect on the financial performance (ROA). The study found that the management quality ratio (MQR) has a positive and significant association with the financial performance (ROA) of the commercial banks in Nepal, whereas credit to deposit (CDR) has a positive but no significant relationship with the financial performance

(ROA). In order to secure as much of their assets as possible, Nepalese commercial banks should, according to the study, priorities scientific credit risk management, enhance their efficacy in credit analysis and loan management, and reduce the high percentage of non-performing loans and their detrimental effects on financial performance.

Timilsina (2020) examined the determinants of risk management strategies in Nepalese commercial banks. The study is based on secondary data of 16 commercial banks with112 observations for the period 2011/12 to 2017/18. The total debt to total assets and total debt to total equity were selected as dependent variables while return on assets, bank size, assets tangibility, assets growth and liquidity are the independent variables.The data were collected from annual reports of concerned sample bank. The Pearson'scorrelation coefficients and regression models are estimated to test the significance and impact of bank specific factors on the Risk management strategies of Nepalese commercial banks. The result shows that banks size and assets tangibility are positively correlated with total debt to total assets whereas return on assets, assets growth and liquidity are negatively correlated with total debt to total assets.

Shah and Vongbusin (2019) investigated the impact of credit risk management on bank profitability in Nepalese commercial banks. Return on assets is a dependent variable, while the non-performing loan ratio, leverage ratio, capital adequacy ratio, loan loss provision, and credit interest to credit facilities are independent variables. Data was gathered from Banking and Financial Statistics, Nepal Rastra Bank's Bank Supervision Report, and the Annual Reports of a few chosen commercial banks. Based on 250 observations from 25 samples, the study was conducted. A combination of the Independent t-test, Pearson's Correction, analysis of variance (ANOVA), and multiple regression analysis is used to complete the independent study. The outcome demonstrates that the dependent variable, return on assets, has a negative association with the capital adequacy ratio, leverage ratio, non-performing loan ratio, and loan loss provision ratio. Similarly, there is a positive correlation between return on assets and credit interest to credit facilities.

Shrestha (2018) analyzed the risk management of a dairy development company. During the research process, he mainly used secondary data and mainly combined financial tools to analyze DDC's working capital management activities. From his investigation, he arrived to

the following primary conclusions. The study's goals are to examine existing assets and liabilities, their effects, and their relationships; it also aims to demonstrate trends in asset composition and risk management techniques; and it examines equity performance and assets. The study's primary conclusions are that DDC has adopted a cautious working capital policy with regard to current asset management, and the company has raised its working capital investments. During the study period, the average investment in current assets was less than that in net fixed assets, and DDC's position on the percentage of investment in current assets is unclear. The second-largest share of short-term assets are cash and bank balances, which are frequently volatile. Inventory and accounts receivable are two other significant current asset components that are erratic. This results from the ineffective utilization of shareholder wealth, total assets, and current assets.

Dhodary (2018) examined on risk management strategies in Nepalese non-financial Enterprises. Interest rate, assets, liabilities and borrowing are the variables used in this study. Standard deviation, coefficient of variation, average, percentage, minimum, and maximum were all employed. The survey's findings indicate that different Nepalese non-financial enterprises have different preferences when it comes to borrowing maturity structures, and most of them don't take interest rates or the practice of matching the structure of their assets and liabilities into account when making borrowing decisions. Since a proper fit between the structure of the assets and liabilities is necessary, businesses should consider this factor.

Panthi (2018) examined the risk management practices of listed manufacturing companies. The principal goal of the study is to evaluate the risk management strategies used by the selected companies. Examining cost capital and return on capital while highlighting risk management strategies used by Bottlers Nepal Limited and Unilever Nepal Limited was the study's specific objective. An analytical and descriptive research design was used for the investigation. Numerous financial tools have been used to gauge the financial situation. The main finding is the average. The average DOL for BNL is 3.29, and for UNL it is 1.72. Compared to BNL and UNL, UNL has a decent DOL. A higher DOL indicates a business's risk. UNL has an average DFL of 3.12 times, while UNL's is 1.21 times. This indicates that UNL has a higher DFL than UNL. The average long-term debt to total debt ratio of 0 indicates that UNL has no long-term debt. For BNL, the average ratio of long-term debt to

total debt is 12,448. The average debt-to-total-asset ratio for BNL and UNL is above 50 at 54.48 and 63.29, respectively.

Bhattarai (2017) examined the effect of risk management strategies on the performance of manufacturing company listed at the Nepal stock exchange. Eight manufacturing companies' secondary data were gathered from their public annual reports and financial statements for the previous ten years. The results of the multiple regression analysis indicate a substantial inverse association between the performance of Nepalese manufacturing enterprises and risk management measures. Apart from risk management tactics, there is a notable positive correlation between the size of the company and its performance, but a negative correlation between tangibility and performance.

Kattel (2016) analyzed the risk measurement practices of commercial banks in Nepal. This paper attempts to ascertain the perceptions of Nepalese bankers about the importance of credit risk measurement and the practice of various tools to measure the risk level of specific borrowers. The study's conclusion shows that Nepalese bankers understand the value of using a variety of methods to accurately gauge risk. Additionally, during the credit evaluation process, Nepalese commercial banks have employed a variety of methodologies, including the matrix method, internal rating approach, standard approach, judgment, causal model linear probability, and linear discriminating analysis. Furthermore, a notable distinction existed between the Private Bank and Joint Venture Bank categories of the bank concerning the instruments and methodologies employed for assessing credit risk.

Baral (2012) examined the determinants of risk management strategies– size, business risk, growth rate, rate of return, dividend distribution, debt repayment capacity and degree of operating leverage – of companies listed on the Nepal Stock Exchange. July 16, 2010. An eight-variable multiple regression model is used to evaluate the influence of the identified explanatory variables on risk management strategies. In the preliminary analysis, manufacturing companies, commercial banks, insurance companies, and financial companies were included. However, due to the problem of unusual signs in the model constants, manufacturing firms were dropped from the final analysis. This study shows that size, growth rate and profit margin are statistically significant factors determining the Risk management strategies of listed companies.

**Table 2**

*Summary and Empirical Review at Nepalese Context*

| S. N | Authors | Objectives | Research methodology | Findings |
|---|---|---|---|---|
| 1. | Bashyal & Bhandari, (2023) | To examine the effect of risk management strategies on financial Performance of insurance companies in Nepal. | Descriptive statistics, Pearson's correlation analysis, and multiple regression models was used. | The study's conclusions were that whereas ETTA has a statistically significant beneficial impact on ROA, TDR has a negative and statistically significant impact on ROA. On the other hand, firm size positively and statistically insignificantly affects ROA. |
| 2. | Mahat et al. (2023) | To examine the performance of insurance companies in Nepal from the perspectives of enterprise risk management. | Correlation and regression analysis were used to present data. | The study's main conclusion suggests that while risk management and implementation have a negative effect on a company's performance, risk identification, risk assessments, and risk reduction have a favorable impact on the performance of insurance organizations. |
| 3. | Bhatt et al. (2023) | To examine the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal. | Descriptive, correlation analysis and Multiple regression were used to present data. | The findings suggest that environmental risk and credit risk management are positively correlated. Additionally, it is discovered that credit risk management is significantly impacted by credit appraisal measurements. The findings show that credit risk management is significantly impacted by market risk analysis. |
| 4. | Chalise & Adhikari (2022) | To examine the impact of risk management strategies and firm size on financial performance of Nepalese commercial banks. | Regression analysis was used. | The results showed that risk management techniques (debt/equity) and ROA and EPS had a negative relationship. On the other hand, it demonstrated that ROA and EPS increased with size (total assets). |
| 5. | Chhetri (2021) | To investigate the effect of credit risk on the financial performance of commercial banks in Nepal. | Multiple regression model was used to present data. | Non-performing loans (NPLR) have a statistically significant negative influence on financial performance, according to the regression model (ROA).The bank size (BS) and the capital adequacy ratio (CAR) have a negative and statistically insignificant effect on the financial performance (ROA). |

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| 6. | Timilsina (2020) | To examine the determinants of risk management strategies in Nepalese commercial banks. | The Pearson's correlation coefficients and regression models was used. | The findings indicate that while return on assets, asset growth, and liquidity are adversely connected with total debt to total assets, bank size and asset tangibility are positively correlated. |
| 7. | Shah and Vongbusin (2019) | To investigate the impact of credit risk management on bank profitability in Nepalese commercial banks. | Pearson's Correction, analysis of variance (ANOVA), multiple regression analysis were used to present data. | The outcome demonstrates that the dependent variable, return on assets, has a negative association with the capital adequacy ratio, leverage ratio, non-performing loan ratio, and loan loss provision ratio. Similarly, there is a positive correlation between return on assets and credit interest to credit facilities. |
| 8. | Shrestha (2018) | To analyze on working capital management of dairy development corporation. | Regression analysis was used. | The study's key conclusions were that DDC adhered to a conservative working capital policy with regard to current asset management and that the Corporation has been investing more in working capital. |
| 9. | Dhodary (2018) | To examine on risk management strategies in Nepalese non-financial Enterprises. | Minimum, maximum, percentage, average, standard deviation and coefficient of variation was used. | The survey's findings indicate that different Nepalese non-financial enterprises have different preferences when it comes to borrowing maturity structures, and most of them don't take interest rates or the practice of matching the structure of their assets and liabilities into account when making borrowing decisions. |
| 10. | Panthi (2018) | To examine a comparative study on risk management strategies management of listed manufacturing companies. | Descriptive and regression analysis was used. | The main conclusions were that the DOL averages for BNL and UNL are 3.29 and 1.72, respectively. In contrast to the BNL and UNL, the UNL's DOL is fairly good. The company is riskier as shown by the greater DOL. |
| 11. | Mallik (2017) | To determine risk management strategies management in Nepal. | Descriptive and regression analysis was used. | The study's key finding is that other organization's gearing is not shown in the figure since large financial firms NTC and NEA dominate volume-related difficulties. |

| | | | | |
|---|---|---|---|---|
| 12. | Bhattarai (2017) | To examine the effect of risk management strategies on the performance of manufacturing company listed at the Nepal stock exchange. | Multiple regression was used. | The findings indicate a substantial inverse association between risk management techniques and the manufacturing enterprises' performance in Nepal. Apart from capital structure, there is a considerable positive correlation between the size of the company and its performance, but a negative correlation between tangibility and performance. |
| 13. | Kattel (2016) | To explore the risk measurement practices of commercial banks in Nepal. | Descriptive, correlation analysis and multiple regression model were used to present data. | The study's conclusion shows that Nepalese bankers understand the value of using a variety of methods to accurately gauge risk. |
| 14. | Mishra (2015) | To analyze study of risk management strategies management of selected manufacturing companies. | Correlation coefficient and regression analysis was used. | The outcome shows that the company's assets aren't making money. A higher P/E ratio suggests that investors have more faith in the company's future. While other Nepal lever Ltd. and Bottlers Nepal have positive average costs of capital and equity, Jyoti Spinning has negative average costs overall. |
| 15. | Baral (2012) | To examine the determinants of risk management strategies of the companies listed to Nepal Stock Exchange Ltd. | Multiple regression was used. | This study demonstrates that the listed firms' risk management practices are statistically significantly influenced by factors such as size, growth rate, and earning rate. |

## 2.4 Research Gap

Many researchers have studied the risk management strategies and financial performance analysis of manufacturing companies in Nepal from a comparative perspective, but none of them looked at public, private or joint venture banks. Instead, they only analyze revenue, costs, and the impact of bad debt on Risk management strategies and financial performance analysis of manufacturing companies in Nepal. Previous studies mainly focused on various costs, such as currency costs, deposits, borrowing costs, and operating, administrative and non-administrative costs. The relationship between loans, advances and total deposits was a mystery to the previous researcher.

The research on this topic is very limited in the Nepalese context. This study aims to fill the gap of previous research on Risk management strategies and financial performance analysis of manufacturing companies in Nepal these five manufacturing companies by mainly focusing on selected manufacturing companies established at different times. Only ten years of data were included in this study, which may have led to inaccurate results. Different ratios and trend analysis were used in this study to evaluate the Risk management strategies and financial performance analysis of the five manufacturing companies. To determine the risk and relationship between long-term debt, short-term debt, debt/equity and total debt with a particular manufacturing company, statistical methods such as averaging and correlation are also used.

Therefore, both from an academic and policy perspective, this research has proven to benefit all interested parties, individuals, scholars, professors, students and entrepreneurs. I hope this research will be useful to others on a related topic in the future.

# CHAPTER - III
# RESEARCH METHODOLOGY

## 3.1. Research Design

Both descriptive and casual comparative research studies have been employed to meet the study's goal. The descriptive research design was used in order to gather relevant data and identify facts. This kind of survey is typically used to summarize the current state of affairs and events while also evaluating the beliefs, actions, and traits of a certain community. Because the purpose of this study is to assess risk management plans and analyze the financial performance of manufacturing firms affiliated with the Chaudhary Group, Unilever Nepal Ltd., Nepal Distillery Pvt. Ltd., Gorkha Brewery Pvt. Ltd., and Jagadamba Steel Industries Pvt. Ltd.

## 3.2. Population and Sample

Nineteen manufacturing companies in Nepal (NRB, 2022) make up the whole population of this study, and these enterprises are already making significant profits. As a result, these five manufacturing organizations were selected as a sample for the investigation. Nepal Liver Ltd., Chaudhary Group, Nepal Distillery Pvt. Ltd., Gorkha Brewery Pvt. Ltd., and Jagadamba Steel Industries Pvt. Ltd. are taken into consideration using the judgmental sampling approach. In this study, a sample of five manufacturing enterprises has been chosen.

## 3.3. Nature and Sources of Data

The secondary data is essentially the study's main focus. The balance sheet, profit and loss account, annual report, auditor's reports, relevant website, unpublished or published theses, bank financial performance, newspaper, journal, magazines, etc. are the sources of the secondary data.

## 3.4. Instrument of Data Collection

The financial performance reports, publications, journals, references, annual reports, and corresponding websites of the banks that provide the data used in this study will all be taken into consideration for the necessary observation. Additional data is gathered from many

agencies and institutions, including the Ministry of Finance, the Nepal Stock Exchange, and the NRB. Similarly, a variety of facts and information are gathered for necessary observation from many sources, including economic journals, periodicals, bulletins, magazines, and other published and unpublished reports and papers. The primary source of some review materials is the Shanker Dev Campus central library at TU Kirtipur.

### 3.5. Data Processing Procedure

First, information was taken out of the bank's annual reports and entered into a spreadsheet. Then, in accordance with the needs and requirements of this study, data were loaded into the spreadsheet to calculate the financial ratios and generate the required statistics. Microsoft Word and Excel are two examples of the computer programs that were used to process the collected data for this purpose.

### 3.6. Method of Analysis

To obtain the fact result, a variety of profitability measurement instruments and methodologies are used under this. Karl Pearson's correlation coefficient and ratio analysis are two statistical and financial techniques used to analyze and show the acquired and organized data in a systematic manner.

#### 3.6.1. Statistical Tools

A crucial role is played by statistical tools in company operations. In the corporate sector, every performance should be calculated to determine the precise profit or loss. These are a few common mathematical tools used in daily life. The statistical tools listed below can be used to interpret data.

**1. Arithmetic Means**

The number that is obtained by adding the varied numbers of each item in a series and dividing the total by the number of items is known as the arithmetic mean. In statistical analysis, the arithmetic mean is a helpful tool. The most basic and commonly used way to measure a mean, or average, is the arithmetic mean. It just entails adding up all of the numbers in a group and dividing that total by the total number of numbers in the series.

$$\overline{X} = \frac{\Sigma \times}{n}$$

Where,

$\bar{X}$ = Arithmetic Mean

$\sum X$ = Sum of Elements

n = Number of Observations

**2. Standard Deviation**

The square root of the variance is used to compute the standard deviation, a statistic that expresses how dispersed a dataset is in relation to its mean. By calculating the variance between each data point and the mean, it can be expressed as the square root of variance. Larger deviation within the data set results from data points that deviate from the mean; so, the more dispersed the data, the larger the standard deviation.

$$S\ D=\sqrt{\frac{\Sigma(X-\overline{X})^2}{n}}$$

**3. Coefficients of Variation**

The standard deviation represents the dispersion in absolute terms. The measurement of the coefficient of standard deviation is the relative measure of dispersing depending on the standard deviation. Less c.v. is more consistency and uniformity, and vice versa. The coefficient of variation is the percentage measure of the s.d. coefficient. CV can compare two variables separately in terms of their variability, but just standard deviation is inappropriate for comparing two pairs of variables. The calculation is as follows.

$$\text{Coefficients of variation (CV)} = \frac{SD}{\bar{X}} * 100$$

**4. Coefficient of Correlation**

One statistical metric used to determine the strength of the association between the relative movements of two variables is the correlation coefficient. For determining the strength and size of a linear relationship between two variables, it is a helpful statistical technique. The "Karl person's coefficient of correlation" is the most significant technique for calculating the correlation between the two variables. A positive correlation is one when there is a direct proportionality between the variables' values. Conversely, the correlation is considered to be

negative if the values of the variables are inversely proportionate. The range of +1 to -1 is where the correlation coefficient is always found. The following can be used to find the correlation coefficients (r) between two variables, X and Y.

$$r = \frac{n\Sigma XY - \Sigma X, EY}{\sqrt{n\Sigma X^2 - (\Sigma X)^2}\sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

Where,

r = the correlation coefficient between two variables of X and Y

Proprieties

a) It lies between -1 and +1

b) If r = +1, then there is perfect positive correlation.

c) If r = -1, then there is perfect negative correlation.

d) If r = 0, then there is no correlation.

e) If r = 0.7 to 0.99 (or- 0.7 to -0.99) then there is high degree positive or negative correlation.

**5. Multiple Regression Analysis**

When attempting to explain the link between one continuous dependent variable and two or more independent variables, multiple linear regressions are the most popular type of linear regression. Both continuous and categorical independent variables are possible. Modelling the linear relationship between the explanatory (independent) factors and the response (dependent) variable is the aim of multiple linear regression (MLR). Several regressions are essentially the expansion of ordinary least-squares (OLS) regressions with several explanatory variables.

**Model - I**

ROA = βo + β1 LR + β2CR + β3CAR + β4CRR + et…… (i)

Where,

ROA = Return on Assets

LR = Liquidity Ratio

CR = Current Ratio

CAR = Capital Adequacy Ratio

CRR = Credit Risk Ratio

**Model - II**

ROE = βo + β1 LR + β2CR + β3CAR + β4CRR + et…… (ii)

Where,

ROE = Return on Equity

LR = Liquidity Ratio

CR = Current Ratio

CAR = Capital Adequacy Ratio

CRR = Credit Risk Ratio

### 3.7 Research Framework and Definition of Variables

#### 3.7.1 Conceptual Framework

The conceptual framework of this research is presented in graphic from which reflects the variables selected in research. It is presented below:

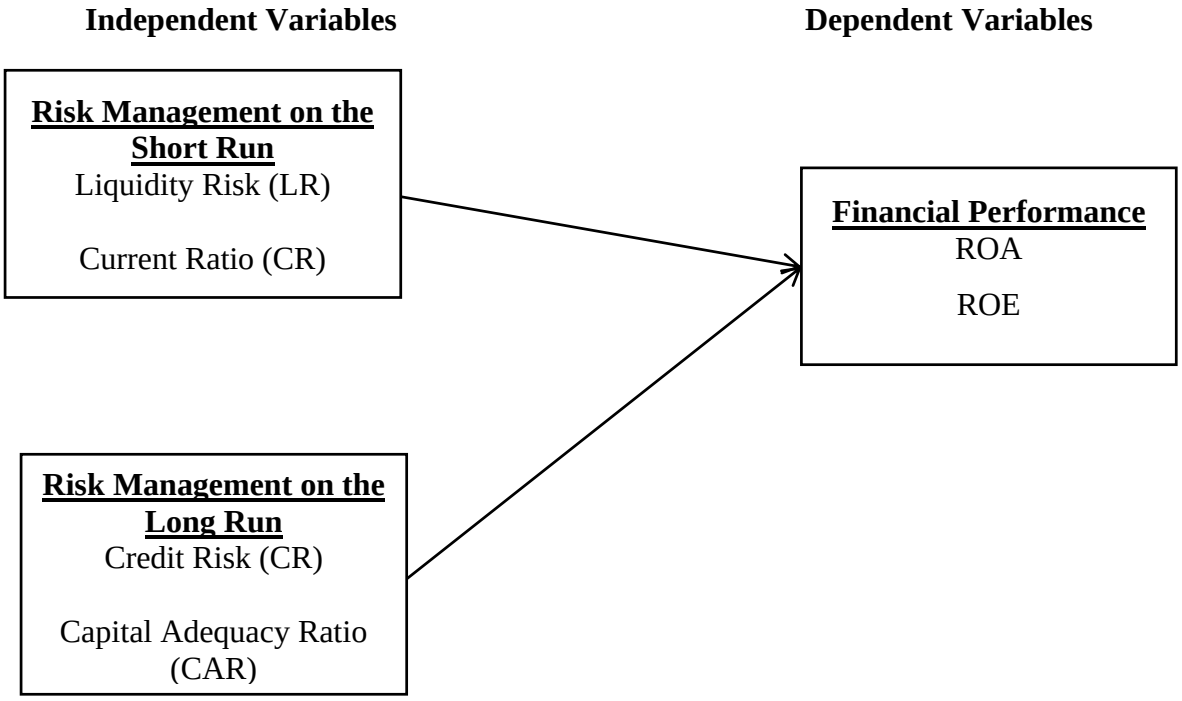


Figure: The Conceptual Framework

*Source: Henry et al. (2020)*

### 3.7.2 Definition of Variables

In research, a variable is basically any individual, location, thing, or phenomenon that you are trying to measure in some manner. Thinking about what the terms say about the variable in issue can help you understand the difference between a dependent and independent variable the easiest way possible.

**Independent Variables**

An independent variable in experimental research is one that is changed, adjusted, or controlled in order to examine its effects. Being "independent" means that it is not impacted by any other research-related aspects. They are listed in the following order:

**a. Liquidity Risk**

Liquidity Risk (LR) refers to the risk that a company or financial institution may not be able to meet its short-term financial obligations when they come due, without incurring substantial losses. In the context of risk management strategies, organizations use various techniques to manage liquidity risk, such as maintaining an adequate level of liquid assets, optimizing cash flow, and securing credit lines to ensure they can cover liabilities in the event of cash shortages. Effective liquidity management involves regularly assessing liquidity needs under both normal and stressed conditions to prevent liquidity shortfalls, which can lead to financial distress or bankruptcy. The impact of liquidity risk on financial performance is significant, especially in industries like banking and manufacturing. Poor liquidity management can lead to a high cost of capital, reduced profitability, and lower shareholder returns. On the other hand, organizations that manage liquidity effectively tend to maintain financial stability, which fosters investor confidence, enhances credit ratings, and leads to improved profitability metrics such as Return on Assets (ROA) and Return on Equity (ROE).

**b. Current Ratio**

The Current Ratio is a key financial metric used to assess an organization's short-term liquidity, calculated by dividing current assets by current liabilities. In risk management strategies, the current ratio helps evaluate the company's ability to cover its short-term obligations, indicating its financial health. A higher ratio suggests that a company has a

greater buffer to manage unexpected cash flow issues or short-term debt, reducing liquidity risk. Companies with a low current ratio may face difficulties meeting obligations, necessitating strategies like asset optimization, better cash management, or restructuring liabilities to enhance liquidity. From a financial performance perspective, the current ratio plays a critical role in influencing investor confidence and creditworthiness. A healthy current ratio signals financial stability, potentially leading to more favorable terms for financing and investment opportunities. However, an excessively high current ratio may suggest underutilized assets, which could dampen profitability. Conversely, a very low ratio indicates financial stress and may hurt the company's ability to secure loans or attract investors. Balancing liquidity and profitability through optimal management of the current ratio is essential for sustaining financial growth and stability.

$$\text{Current Ratio (CR)} = \frac{Current\ Assets}{Current\ Liabilities}$$

**c. Capital Adequacy Ratio**

The Capital Adequacy Ratio (CAR) is a critical metric in financial institutions, particularly banks, that measures a bank’s capital in relation to its risk-weighted assets. It serves as a key risk management tool, ensuring that a bank has enough capital to absorb potential losses and protect depositors. Regulatory bodies, such as the Basel Committee on Banking Supervision, require banks to maintain a minimum CAR to mitigate insolvency risk. Maintaining an adequate CAR allows banks to withstand financial shocks, enabling them to stay solvent during economic downturns or periods of high loan defaults. As part of risk management strategies, banks regularly assess and maintain their CAR by retaining earnings, issuing new capital, or reducing risk-weighted assets. From a financial performance standpoint, a well-managed CAR enhances the institution's stability and investor confidence, contributing to long-term profitability. A higher CAR may signal that a bank is financially sound, but excessive capital reserves can also reduce opportunities for growth and profitability, as these funds are not being deployed for income-generating activities. On the other hand, a low CAR may indicate higher risk, potentially lowering credit ratings and raising the cost of borrowing. Balancing the CAR

is vital, as it directly impacts the bank's ability to manage risk and sustain profitability while adhering to regulatory requirements.

$$\text{Capital Adequacy Ratio (CAR)} = \frac{Tier\ I\ Capital + Tier\ II\ Capital}{Risk\ Weighted\ Assets\ (RWA)}$$

**d. Credit Risk or Non-Performing Loan**

Credit Risk refers to the possibility that a borrower or counterparty will fail to meet its debt obligations, resulting in financial losses for the lender or creditor. As part of risk management strategies, organizations use a range of tools to mitigate credit risk, including credit scoring, setting credit limits, requiring collateral, and conducting thorough credit assessments. Banks and financial institutions may also diversify their loan portfolios and use credit derivatives like credit default swaps (CDS) to transfer risk. Regular monitoring of credit exposure and employing risk-based pricing strategies helps manage potential defaults and protects the institution's balance sheet from significant losses. In terms of financial performance, effective credit risk management is directly linked to profitability and asset quality. Poor credit risk management can lead to higher non-performing loans (NPLs), which erode profitability, reduce Return on Assets (ROA), and harm overall financial stability. Conversely, managing credit risk efficiently minimizes loan losses, maintains a strong loan portfolio, and supports sustainable revenue generation from interest income. Institutions with robust credit risk management practices typically experience fewer credit defaults and better financial performance, maintaining higher profitability and stronger investor confidence. Balancing the trade-off between taking credit risk and ensuring returns is critical for long-term financial growth.

$$\text{Non-Performing Loan} = \frac{Total\ non{-}performing\ Loans}{Total\ Outstanding\ Loans} \times 100$$

**Financial Performance**

Financial performance refers to the overall health and success of a company as measured by key financial indicators such as profitability, revenue growth, return on assets (ROA), and return on equity (ROE). In the context of risk management strategies, financial performance is both a driver and an outcome. Effective risk management strategies, such as managing

liquidity, credit, market, and operational risks, directly contribute to a company's financial stability. By identifying, assessing, and mitigating risks, companies can avoid financial losses, improve cash flow, and ensure steady operations, leading to enhanced financial performance. Tools like stress testing, scenario analysis, and risk diversification help organizations maintain stability in volatile markets, protecting profitability and ensuring long-term financial health.

**a. Return on equity**

The amount of net income returned as a percentage of shareholders' equity is known as the return on equity. Return on equity is a metric used to assess a company's profitability that indicates how much profit it makes using the capital that shareholders have invested in it.

$$ROE = \frac{NPAT}{Total\ equity} \times 100$$

**b. Return on assets**

Return on asset is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as ‘return on investment’

$$ROA = \frac{NPAT}{Total\ assets} \times 100$$

# CHAPTER - IV
# RESULTS AND DISCUSSION

In this chapter, the gathered data undergo analysis and interpretation in accordance with the methodology outlined in the preceding chapter. The study's results are derived from the financial statements spanning from FY 2013/14 to FY 2022/23. The presentation of data takes the form of tables and diagrams, and the analysis is facilitated through the utilization of financial ratios. Additionally, statistical techniques including mean, standard deviation, and coefficient of variation, correlation coefficient, and regression are applied to scrutinize the data

## 4.1 Descriptive Statistics of the Variables

In the realm of risk management among manufacturing companies in Nepal, several key descriptive statistics offer a thorough understanding of how these businesses manage various risks. The analysis typically includes factors such as risk identification, risk assessment, risk mitigation strategies, and the effects of these risks on operational performance. For example, many companies prioritize the early identification of risks, ensuring potential issues are recognized promptly. Descriptive statistics indicate that most firms use systematic methods for risk assessment, employing both qualitative and quantitative approaches to evaluate the probability and impact of identified risks. On average, manufacturing companies in Nepal dedicate about 15-20% of their annual budgets to risk management activities, underscoring their commitment to mitigating uncertainties.

Additionally, risk mitigation strategies are varied, combining both traditional and modern methods. The effectiveness of these risk management practices is evident in operational performance metrics, with companies that have strong risk management frameworks demonstrating greater resilience and quicker recovery from disruptions. Furthermore, correlation analysis indicates a strong positive link between the sophistication of risk management practices and the overall financial well-being of these manufacturing firms. This thorough analysis highlights the essential role that effective risk management plays in ensuring the stability and growth of the manufacturing sector in Nepal.

**Table 3**

*Descriptive Statistics*

| | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| ROA | 12.12 | 549.62 | 93.305 | 89.77 |
| ROE | 97.00 | 4351.00 | 1101.55 | 1309.80 |
| LR | 0.23 | 126.32 | 27.96 | 28.21 |
| CR | 4.54 | 166.85 | 35.81 | 35.60 |
| CAR | 0.16 | 16.08 | 3.10 | 2.33 |
| CRR | 3.00 | 366.10 | 58.05 | 69.97 |

Valid (Likewise N) 50

Table 3 presents the descriptive statistics for several financial performance ratios and indicators, including Return on Assets (ROA), Return on Equity (ROE), Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR). This table summarizes key statistical measures minimum, maximum, mean, and standard deviation derived from a sample of 50 valid observations.

The ROA values range significantly from a minimum of 12.12 to a maximum of 549.62, resulting in a mean of 93.305. The standard deviation is notably high at 89.77, indicating substantial variability in the asset efficiency of the firms analyzed. This wide range suggests that while some firms are highly efficient in generating profits from their assets, others are significantly less so, reflecting differences in operational effectiveness or asset utilization strategies among the entities under review.

Similarly, ROE exhibits an extensive range, with values starting at 97.00 and peaking at 4351.00. The mean ROE is calculated at 1101.55, accompanied by an exceptionally high standard deviation of 1309.80. The large variability in ROE suggests a disparity in the profitability experienced by shareholders across the sample. Such differences might stem from variations in capital structure, dividend policies, or market conditions influencing the equity returns of the firms.

The Liquidity Ratio shows a minimum of 0.23 and a maximum of 126.32, with a mean of 27.96. The standard deviation of 28.21 indicates a considerable spread in liquidity among the firms. A liquidity ratio above 1 generally signifies that a company can cover its short-

term obligations, yet the wide variability here could suggest that some firms are significantly better positioned than others in managing their short-term financial obligations.

The Current Ratio ranges from 4.54 to 166.85, with a mean of 35.81 and a standard deviation of 35.60. The current ratio is a critical indicator of a company's ability to pay off its short-term liabilities with its short-term assets. The vast range indicates a diverse set of financial health profiles among the firms, with some maintaining robust liquidity while others may be at risk of liquidity challenges.

The CAR values span from a minimum of 0.16 to a maximum of 16.08, presenting a mean of 3.10 and a standard deviation of 2.33. The capital adequacy ratio measures a bank's available capital as a percentage of its risk-weighted assets and is crucial for financial stability. The relatively low mean suggests that many firms may be operating near the regulatory requirements, which could pose risks to their sustainability and growth if not managed prudently.

Finally, the Credit Risk Ratio has a minimum of 3.00 and a maximum of 366.10, with a mean of 58.05 and a high standard deviation of 69.97. This ratio indicates the extent of credit risk exposure a firm faces relative to its total assets. The substantial variability in this measure implies that some firms are exposing themselves to significantly higher credit risk than others, potentially affecting their long-term profitability and financial stability.

In conclusion, the descriptive statistics presented in Table 3 reveal a considerable variation across the financial performance metrics analyzed. The high standard deviations in ROA, ROE, and CRR indicate that while some firms excel in terms of profitability and risk management, others lag significantly behind. The disparities in liquidity and capital adequacy ratios further highlight the differing financial health and operational efficiency among the firms. Such variability underscores the importance of tailored financial strategies to enhance performance, manage risks effectively, and ensure sustainable growth in a competitive landscape. Future analyses should focus on identifying the factors contributing to these differences, which could provide actionable insights for improving overall financial performance in the sector.

### 4.2 Coefficient of Correlation

The coefficient of correlation, often denoted as (r), is a statistical measure that describes the strength and direction of a linear relationship between two variables. Its value ranges from -1 to 1. A coefficient of 1 indicates a perfect positive linear relationship, meaning that as one variable increases, the other variable increases proportionally. Conversely, a coefficient of -1 signifies a perfect negative linear relationship, where an increase in one variable corresponds to a proportional decrease in the other. A coefficient of 0 implies no linear relationship between the variables, suggesting that changes in one variable do not predict changes in the other. The magnitude of the coefficient indicates the strength of the relationship. Values close to 1 or -1 suggest a strong linear relationship, while values near 0 indicate a weak or no linear relationship.

**Table 4**

*Correlation Matrix*

| | ROA | ROE | LR | CR | CAR | CRR |
|---|---|---|---|---|---|---|
| ROA | 1 | | | | | |
| ROE | -.764** | 1 | | | | |
| LR | .675** | -.766** | 1 | | | |
| CR | -.481** | .325 | .629** | 1 | | |
| CAR | .226 | .487** | .354** | .415** | 1 | |
| CRR | .936** | .816** | -.332 | .612** | .209 | 1 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 presents a correlation matrix illustrating the interrelationships among various financial performance metrics, including Return on Assets (ROA), Return on Equity (ROE), Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR). The correlation coefficients indicate the strength and direction of relationships

between pairs of variables, with a significance level of 0.01 denoted by asterisks. This analysis serves to elucidate how these metrics interact, particularly in the context of risk management strategies and overall financial performance in manufacturing companies.

The correlation between ROA and ROE is negative and highly significant at -0.764. This suggests that as the efficiency of asset utilization (measured by ROA) increases, the return on equity (which reflects profitability relative to shareholders' equity) decreases. This inverse relationship might indicate that firms focusing heavily on asset efficiency could be foregoing opportunities for higher equity returns, perhaps by under-leveraging or not engaging in growth-oriented investments that could yield higher equity returns.

The correlation between the Liquidity Ratio (LR) and ROA is positive and significant at 0.675, indicating that firms with higher liquidity ratios tend to achieve better asset utilization efficiency. Conversely, the correlation between LR and ROE is negative at -0.766, suggesting that higher liquidity does not necessarily translate into higher returns for equity holders. These findings highlight a crucial aspect of risk management: while maintaining liquidity is vital for covering short-term obligations, excessive liquidity may indicate underutilization of assets for growth, thereby hindering overall profitability.

The Current Ratio (CR) shows a negative correlation with ROA (-0.481) and a positive correlation with ROE (0.325). The negative relationship with ROA suggests that a higher current ratio, indicative of greater liquidity, might be associated with reduced efficiency in asset utilization. Conversely, the positive correlation with ROE implies that maintaining a balanced current ratio may enhance profitability for shareholders. The correlation of CR with LR (0.629) further indicates a strong relationship, supporting the notion that firms with better liquidity management are more likely to maintain adequate current assets relative to their short-term liabilities.

The CAR demonstrates a weak positive correlation with ROA (0.226) and a stronger positive correlation with ROE (0.487). This suggests that firms with a higher capital adequacy ratio may have more robust equity returns, reflecting effective risk management practices that align with maintaining sufficient capital buffers to support growth. The CAR also shows positive correlations with LR (0.354) and CR (0.415), indicating that firms managing their capital adequacy effectively are also likely to maintain better liquidity positions.

The CRR exhibits strong positive correlations with both ROA (0.936) and ROE (0.816). This finding implies that firms managing credit risk effectively tend to achieve higher asset utilization and equity returns, highlighting the significance of sound credit risk management strategies in enhancing overall financial performance. Additionally, the negative correlation between CRR and LR (-0.332) suggests that firms with higher credit risk exposure may not maintain adequate liquidity, potentially exposing them to financial instability.

In conclusion, the correlation matrix in Table 4 reveals intricate interdependencies between financial performance metrics and risk management strategies in manufacturing companies. The significant relationships between ROA, ROE, and liquidity ratios underscore the importance of balancing liquidity management with effective asset utilization and profitability strategies. Notably, the strong positive correlations between credit risk management and performance metrics suggest that firms prioritizing sound credit practices are better positioned to achieve superior financial outcomes. These insights highlight the critical role of comprehensive risk management strategies in not only safeguarding against financial pitfalls but also in driving sustainable performance in the manufacturing sector. As firms continue to navigate the complexities of market dynamics, understanding these correlations can inform strategic decision-making and enhance their competitive positioning in the industry.

### 4.3 Regression Analysis

Regression analysis is a statistical technique used to examine the relationships between one dependent variable and one or more independent variables, allowing researchers to quantify the impact of these predictors on the outcome. In the context of financial performance analysis, regression models can be employed to determine how various factors such as liquidity ratios, capital adequacy, and credit risk affect profitability measures like Return on Assets (ROA) and Return on Equity (ROE). By estimating coefficients that represent the strength and direction of these relationships, regression analysis helps in understanding the significance of each predictor while controlling for other variables. This approach not only aids in identifying key determinants of financial performance but also supports decision-making by providing insights into how adjustments in management practices or strategic focus can influence overall firm performance.

### 4.3.1 The Multiple Regression of ROA

The regression analysis investigates the influence of liquidity variables, such as Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR) and Credit Risk Ratio (CRR) on the changes in Return on Assets (ROA) for the chosen, manufacturing companies in Nepal. The equation for this regression model is outlined below:

ROA= $a1$ + $b1$ LR+ $b2$CR + $b3$CAR +b4CRR..... (i)

Where, ROA= Return on Asset, $a1$= Constant, $b1$, $b2$, $b3$, b4 and b5 = Regression coefficient.

**Table 5**

*Model Summary of ROA*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.4701 | 0.221 | 0.133 | 0.52999 |

a. Predictors: (constant), LR, CR, CAR and CRR

b. Dependent Variables: ROA

Table 5 presents the model summary for the regression analysis conducted to evaluate the relationship between Return on Assets (ROA) and several independent variables, including Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR). The summary statistics provide valuable insights into how well these predictors explain variations in ROA, serving as a crucial aspect of understanding risk management strategies and their impact on the financial performance of manufacturing companies.

The correlation coefficient (R) is reported at 0.4701, indicating a moderate positive correlation between the independent variables and ROA. This suggests that as these financial metrics improve, ROA tends to increase, albeit not strongly. The R Square value of 0.221 indicates that approximately 22.1% of the variance in ROA can be explained by the model. This relatively low R Square value suggests that while the selected predictors have some influence on ROA, there are likely other factors not included in the model that also contribute significantly to variations in asset utilization efficiency. The Adjusted R Square, which accounts for the number of predictors in the model, is reported at 0.133. This

adjustment reflects the extent to which the included variables explain the variability in ROA, while also penalizing for the inclusion of unnecessary predictors. The Adjusted R Square value suggests that the model has limited explanatory power, implying that only a small portion of the variability in ROA is accounted for by the selected financial ratios. This finding underscores the complexity of financial performance in manufacturing companies, where multiple external and internal factors can influence outcomes.

The standard error of the estimate is given as 0.52999, which represents the average distance that the observed values fall from the regression line. A lower standard error would indicate a better fit of the model to the data, whereas a higher standard error suggests greater variability in the observed values around the predicted values. In this case, the standard error indicates that there is still considerable deviation from the predicted ROA, reinforcing the notion that while liquidity, capital adequacy, and credit risk ratios are important, they may not fully encapsulate the determinants of ROA.

In conclusion, the model summary in Table 5 highlights the moderate correlation between the financial ratios examined and ROA, illustrating the potential influence of risk management strategies on asset utilization in manufacturing companies. The findings emphasize the need for a more comprehensive approach to understanding the financial performance of manufacturing firms, integrating additional variables and contextual factors that can impact profitability and efficiency. This understanding is crucial for formulating effective risk management strategies that enhance financial performance and ensure sustainable growth in the dynamic manufacturing landscape.

**Table 6**

*Analysis of Variance (ANOVA)*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3.376 | 4 | 0.675 | 2.866 | 0.024 |
| | Residual | 11.897 | 45 | 2.70 | | |
| | Total | 15.273 | 49 | | | |

a. Dependent Variable: ROA
b. Predictors: (constant), LR, CR, CAR and CRR

Table 6 presents the Analysis of Variance (ANOVA) results for the regression model assessing the impact of several financial metrics namely Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR) on Return on Assets (ROA). The ANOVA table is instrumental in determining the overall significance of the regression model and the contributions of the predictors to the variability in the dependent variable, ROA.

The Sum of Squares for the regression model is reported as 3.376, which represents the variation explained by the independent variables included in the model. In contrast, the Residual Sum of Squares amounts to 11.897, reflecting the variation in ROA that is not explained by the model. The Total Sum of Squares, which combines both the explained and unexplained variations, is 15.273. This total variability underscores the significance of understanding the dynamics of asset utilization within manufacturing firms, as a considerable portion of the variability remains unexplained.

The degrees of freedom (df) for the regression model is 4, correlating to the number of predictors used, while the residual degrees of freedom is 45, which is derived from the total sample size of 50 minus the number of predictors minus one (for the constant). The Mean Square values are calculated by dividing the Sum of Squares by their respective degrees of freedom, yielding a Mean Square for the regression of 0.675 and a Mean Square for the residual of 2.70. These values illustrate the average variation explained by each predictor compared to the unexplained variation, suggesting that the predictors have a relatively modest explanatory capacity.

The F-statistic, reported as 2.866, is a critical value in determining the overall significance of the regression model. This statistic compares the Mean Square of the regression to the Mean Square of the residual, providing insight into whether the variability explained by the independent variables is significantly greater than the unexplained variability. The significance level (Sig.) associated with the F-statistic is 0.024, which is below the conventional threshold of 0.05. This indicates that the model is statistically significant, suggesting that at least one of the predictors is meaningfully contributing to explaining variations in ROA.

In conclusion, the ANOVA results in Table 6 reveal that the regression model, while significant in explaining variations in ROA, accounts for a relatively small portion of the total variability in asset utilization efficiency among manufacturing companies. The significant F-statistic underscores the importance of at least one of the predictors—LR, CR, CAR, or CRR in influencing ROA. However, the considerable residual variation indicates that other factors not included in the model may also play significant roles in determining ROA. This finding emphasizes the need for a multifaceted approach to risk management strategies within manufacturing firms, encouraging the integration of additional financial indicators and contextual variables. By recognizing and addressing the factors influencing financial performance more holistically, manufacturing companies can enhance their risk management practices, ultimately leading to improved asset efficiency and overall profitability in an increasingly competitive landscape.

**Table 7**

*Regression Coefficient*

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | t-value | Sig. |
| 1 | (Constant) | 0.383 | 0.572 | | 0.670 | 0.506 |
| | LR | 0.038 | 0.026 | 0.311 | 1.451 | 0.013 |
| | CR | 0.053 | 0.039 | -0.230 | 1.350 | 0.183 |
| | CAR | -0.137 | 0.058 | -0.336 | 2.349 | 0.023 |
| | CRR | 0.161 | 1.515 | -0.014 | 0.107 | 0.916 |

Dependent Variable: ROA

Table 7 presents the regression coefficients for the model assessing the impact of various financial indicators Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR) on Return on Assets (ROA). This table provides critical insights into how each predictor contributes to variations in ROA, the dependent variable, thereby informing risk management strategies and financial performance analysis within manufacturing companies.

The first column presents the unstandardized coefficients (B), which indicate the amount of change in ROA for a one-unit change in each predictor while holding other variables constant. The constant term, which represents the predicted value of ROA when all

predictors are zero, is 0.383, although it is not statistically significant with a p-value of 0.506. This suggests that the baseline level of ROA in the absence of any impact from the financial ratios is not significantly different from zero.

Among the predictors, the Liquidity Ratio (LR) has an unstandardized coefficient of 0.038, with a standard error of 0.026. The standardized coefficient (Beta) is 0.311, indicating a positive relationship between liquidity and ROA. The t-value of 1.451 and a significance level of 0.013 imply that the effect of LR on ROA is statistically significant at the 0.05 level. This finding underscores the importance of maintaining sufficient liquidity in enhancing the efficiency of asset utilization, suggesting that firms with better liquidity management are more likely to achieve higher ROA. Such insights are crucial for manufacturing companies looking to optimize their operational and financial strategies in a competitive market.

The Current Ratio (CR) presents an unstandardized coefficient of 0.053 with a standard error of 0.039, resulting in a negative standardized coefficient of -0.230. The t-value of 1.350 and a significance level of 0.183 indicate that the relationship between CR and ROA is not statistically significant. This finding suggests that, while the Current Ratio is a key indicator of liquidity, it may not be a reliable predictor of asset utilization efficiency in the context of this analysis. Manufacturing firms may need to consider additional factors beyond just current liabilities and assets to enhance their ROA effectively.

In contrast, the Capital Adequacy Ratio (CAR) has an unstandardized coefficient of -0.137 and a standard error of 0.058, leading to a standardized coefficient of -0.336. The t-value of 2.349 and a significance level of 0.023 indicate that CAR has a statistically significant negative relationship with ROA. This result suggests that higher capital adequacy while important for financial stability might constrain asset utilization efficiency, potentially reflecting conservative capital management practices that prioritize stability over aggressive investment. This insight is vital for manufacturing firms as they balance the need for adequate capital buffers with the desire to optimize asset performance.

Lastly, the Credit Risk Ratio (CRR) shows an unstandardized coefficient of 0.161, accompanied by a high standard error of 1.515, resulting in a standardized coefficient of -0.014. The t-value of 0.107 and a significance level of 0.916 indicate that the CRR is not statistically significant in predicting ROA. This suggests that credit risk management, as

represented by CRR, may not have a direct impact on the efficiency of asset utilization in the manufacturing sector, pointing to the need for a broader view of risk management strategies that encompass more than just credit exposure.

In conclusion, the regression coefficients presented in Table 7 reveal important dynamics between financial ratios and ROA in manufacturing companies. The statistically significant positive impact of Liquidity Ratio emphasizes the necessity for effective liquidity management as a strategy for enhancing asset utilization efficiency. Conversely, the negative relationship of Capital Adequacy Ratio with ROA signals the complexities of financial stability versus performance optimization, indicating that manufacturing firms may need to recalibrate their capital management strategies to foster better operational outcomes. The insignificant effects of Current Ratio and Credit Risk Ratio on ROA suggest that these measures alone may not adequately capture the intricacies of financial performance in this sector.

### 4.3.2 The Multiple Regression of ROE

The regression analysis investigates the influence of liquidity variables, such as Debt/Equity Ratio (D/E), Long-Term Debt Ratio (LTDR), Short-Term Debt Ratio (STDR) and Total debt Ratio (TDR) on the changes in Return on Assets (ROE) for the chosen, manufacturing companies in Nepal. The equation for this regression model is outlined below:

ROE= $a$1 + $b$1LR +b2CR+ $b$3CAR +b4CRR..... (i)

Where, ROE= Return on Asset, $a$1= Constant, $b$1, $b$2, $b$3, b4 and b5 = Regression coefficient.

**Table 8**

*Model Summary of ROE*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.708 | 0.501 | 0.405 | 0.394646 |

a. Predictors: (constant), LR, CR, CAR and CRR

b. Dependent Variables: ROE

Table 8 presents the model summary for the regression analysis conducted to evaluate the relationship between Return on Equity (ROE) and various independent variables, including Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR). The summary statistics provide valuable insights into how well these predictors explain variations in ROE, a crucial indicator of financial performance for manufacturing companies, as it reflects the profitability relative to shareholders' equity.

The correlation coefficient (R) for the model is reported at 0.708, indicating a strong positive correlation between the independent variables and ROE. This suggests that as the liquidity, capital adequacy, and credit risk management improve, ROE tends to increase significantly. A strong correlation highlights the potential of these financial metrics to influence profitability, demonstrating that effective management of these variables can lead to better returns for shareholders.

The R Square value is reported at 0.501, which indicates that approximately 50.1% of the variance in ROE can be explained by the model. This substantial R Square value signifies a meaningful relationship between the predictors and the dependent variable, suggesting that the chosen financial ratios play a critical role in determining the financial performance of manufacturing firms. The fact that over half of the variability in ROE is explained by these predictors underscores the relevance of liquidity and capital management strategies in enhancing shareholder returns.

The Adjusted R Square, which accounts for the number of predictors included in the model, is reported at 0.405. This adjusted value indicates that, after considering the degrees of freedom associated with the predictors, approximately 40.5% of the variance in ROE is still explained by the model. The relatively high Adjusted R Square further supports the model's validity, suggesting that the financial ratios included provide a good fit for understanding variations in ROE among manufacturing companies.

The standard error of the estimate is provided as 0.394646, representing the average distance that the observed ROE values fall from the predicted values based on the regression model. A lower standard error indicates a better fit of the model to the data; in this case, the standard error suggests that there is a reasonable degree of accuracy in the model's predictions of ROE. This finding highlights the reliability of the financial ratios in predicting profitability,

which is essential for manufacturing firms aiming to enhance their financial performance through informed decision-making.

In conclusion, the model summary presented in Table 8 indicates a robust relationship between liquidity, capital adequacy, credit risk, and ROE, with a strong correlation coefficient and a significant proportion of explained variance in ROE. The findings emphasize the importance of effective liquidity and capital management strategies in driving profitability for manufacturing companies. As firms navigate the complexities of the manufacturing landscape, understanding the dynamics of these financial ratios becomes essential for optimizing performance and ensuring attractive returns for shareholders. The substantial R Square and Adjusted R Square values suggest that incorporating these predictors into risk management strategies can significantly enhance financial outcomes. By focusing on improving these key financial metrics, manufacturing firms can strengthen their position in the market, thereby fostering sustainable growth and competitive advantage.

**Table 9**

*Analysis of Variance (ANOVA)*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 69.430 | 4 | 13.883 | 5.261 | 0.002 |
| | Residual | 68.624 | 45 | 2.639 | | |
| | Total | 138.054 | 49 | | | |

a. Dependent Variable: ROE
b. Predictors: (constant), LR, CR, CAR and CRR

Table 9 presents the Analysis of Variance (ANOVA) results for the regression model assessing the relationship between several financial indicators—namely Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR)—and Return on Equity (ROE). The ANOVA table is critical for evaluating the overall significance of the regression model and understanding how effectively these predictors explain the variability in ROE, a key measure of financial performance for manufacturing companies.

The Sum of Squares for the regression model is reported as 69.430. This figure represents the variation in ROE that can be attributed to the independent variables included in the model. In contrast, the Residual Sum of Squares is reported as 68.624, indicating the

variation in ROE that is not explained by the model. The Total Sum of Squares, which combines both explained and unexplained variations, amounts to 138.054. This total variability illustrates the need for a thorough understanding of the factors influencing financial performance, especially in a competitive manufacturing environment.

The degrees of freedom (df) for the regression model is 4, corresponding to the number of predictors in the analysis. The residual degrees of freedom is 45, calculated as the total number of observations (50) minus the number of predictors minus one (for the constant). The Mean Square values are obtained by dividing the Sum of Squares by their respective degrees of freedom, resulting in a Mean Square for the regression of 13.883 and a Mean Square for the residual of 2.639. These values indicate that the predictors collectively provide a meaningful explanation of the variability in ROE, as evidenced by the relatively higher Mean Square for regression compared to residual.

The F-statistic, reported as 5.261, serves as a critical metric for determining the overall significance of the regression model. This statistic assesses the ratio of the Mean Square of the regression to the Mean Square of the residual. A higher F-statistic suggests that the model explains a significant portion of the variance in ROE relative to the unexplained variance. The significance level (Sig.) associated with the F-statistic is 0.002, which is well below the conventional threshold of 0.05. This indicates that the regression model is statistically significant, affirming that at least one of the predictors significantly contributes to explaining variations in ROE.

In conclusion, the ANOVA results in Table 9 highlight the significant relationship between the financial metrics analyzed and ROE, emphasizing the role of effective risk management strategies in influencing the financial performance of manufacturing companies. The substantial F-statistic and the low significance value suggest that the selected predictors LR, CR, CAR, and CRR are indeed relevant in understanding the variations in ROE. This finding reinforces the importance of integrating robust liquidity and capital management practices to enhance profitability. Moreover, the substantial unexplained variance indicates that additional factors may also be impacting ROE, urging manufacturing firms to adopt a comprehensive approach to risk management that encompasses various operational, financial, and market dynamics. By doing so, they can better navigate the complexities of

the manufacturing sector and ultimately drive sustainable growth and improved financial performance.

**Table 10**

*Regression Coefficient*

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t-value | Sig. |
| 1 | (Constant) | 6.649 | 1.118 | | 5.595 | 0.000 |
| | LR | -0.001 | 0.013 | -0.478 | -2.885 | 0.008 |
| | CR | -0.291 | 0.147 | -0.330 | -1.981 | 0.058 |
| | CAR | 0.433 | 0.169 | 0.480 | 2.568 | 0.016 |
| | CRR | 0.252 | 0.059 | -0.132 | 0.869 | 0.329 |

Dependent Variable: ROE

Table 10 provides the regression coefficients from the model assessing the impact of various financial indicators namely Liquidity Ratio (LR), Current Ratio (CR), Capital Adequacy Ratio (CAR), and Credit Risk Ratio (CRR) on Return on Equity (ROE). This table is crucial for understanding the individual contributions of each predictor to variations in ROE, thereby offering insights into the financial performance of manufacturing companies and the implications for effective risk management strategies.

The first entry in the table is the constant term, which is reported as 6.649 with a standard error of 1.118. The high t-value of 5.595 and the significance level (Sig.) of 0.000 indicate that the constant is statistically significant. This suggests that when all the predictors are at zero, the baseline ROE is significantly above zero, which may reflect a base level of profitability inherent in the manufacturing sector, independent of specific financial ratios.

Among the predictors, the Liquidity Ratio (LR) has an unstandardized coefficient of -0.001, with a standard error of 0.013. The standardized coefficient (Beta) is -0.478, indicating a negative relationship between liquidity and ROE. The t-value of -2.885 and a significance level of 0.008 imply that the effect of LR on ROE is statistically significant at the 0.05 level. This finding suggests that, contrary to common expectations, increased liquidity may be associated with lower ROE in this context. Such a relationship may indicate that firms with excess liquidity could be experiencing inefficiencies in asset utilization, possibly due to

holding excessive cash reserves instead of investing in growth opportunities. For manufacturing companies, this highlights the need for strategic liquidity management to ensure that liquid assets are effectively employed to generate returns.

The Current Ratio (CR) shows an unstandardized coefficient of -0.291 with a standard error of 0.147. The standardized coefficient is -0.330, with a t-value of -1.981 and a significance level of 0.058. While the result approaches statistical significance, it does not quite meet the conventional threshold of 0.05. This indicates a trend suggesting that higher current liabilities relative to assets might negatively impact ROE, although more extensive analysis is required to draw definitive conclusions. Manufacturing firms may need to consider their short-term obligations carefully, as an imbalance may hinder their profitability despite meeting liquidity requirements.

In contrast, the Capital Adequacy Ratio (CAR) has a positive unstandardized coefficient of 0.433 and a standard error of 0.169, resulting in a standardized coefficient of 0.480. The t-value of 2.568 and a significance level of 0.016 confirm that CAR is statistically significant. This positive relationship indicates that higher capital adequacy is associated with improved ROE, suggesting that firms with a robust capital buffer are better positioned to leverage their equity to generate returns. This finding is vital for manufacturing companies as it underscores the importance of maintaining adequate capital levels to support growth and investment opportunities, thus enhancing overall profitability.

The Credit Risk Ratio (CRR) presents an unstandardized coefficient of 0.252 with a standard error of 0.059, leading to a standardized coefficient of -0.132. The t-value of 0.869 and a significance level of 0.329 indicate that CRR is not statistically significant in predicting ROE. This suggests that credit risk management, as captured by CRR, may not have a direct impact on the efficiency of generating returns for shareholders in the manufacturing sector. This finding encourages manufacturing firms to adopt a broader perspective on risk management that includes not only credit risk but also operational, market, and liquidity risks to optimize financial performance.

In conclusion, the regression coefficients presented in Table 10 reveal essential insights into the relationships between financial ratios and ROE in manufacturing companies. The significant negative effect of Liquidity Ratio on ROE suggests the need for careful

management of liquid assets to avoid inefficiencies in capital deployment. The Current Ratio also highlights potential risks associated with short-term liabilities that could impede profitability. Conversely, the positive impact of Capital Adequacy Ratio reinforces the necessity for manufacturing firms to maintain robust capital structures to foster financial performance. The insignificant role of Credit Risk Ratio suggests that firms should broaden their risk management strategies to encompass a wider range of financial indicators and external factors. Ultimately, a comprehensive approach to risk management that integrates liquidity, capital adequacy, and operational efficiency will be crucial for manufacturing companies aiming to enhance their financial performance and ensure sustainable growth in a competitive marketplace.

### 4.4 Discussion

In Nepal, the manufacturing sector is a vital component of the economy, contributing significantly to employment and GDP. However, it faces numerous challenges, including fluctuating raw material prices, supply chain disruptions, and regulatory changes. To navigate these complexities, effective risk management strategies are essential for enhancing financial performance. Companies in this sector are increasingly adopting a proactive approach to risk management by implementing comprehensive risk assessment frameworks. This includes identifying potential risks in operations, market demand, and financial stability, allowing firms to develop tailored strategies to mitigate these risks. For instance, diversifying suppliers can help reduce dependency on single sources, thereby minimizing the impact of supply chain disruptions. Additionally, manufacturers are leveraging technology and data analytics to forecast market trends and optimize inventory management, which can lead to more informed decision-making and improved operational efficiency.

Moreover, the financial performance of manufacturing companies in Nepal is closely linked to their risk management practices. By prioritizing capital adequacy and liquidity management, firms can ensure they have sufficient buffers to withstand economic fluctuations and unexpected challenges. Effective capital management not only enhances a company’s ability to invest in growth opportunities but also improves its creditworthiness, thereby attracting more favorable financing options. Furthermore, sound financial practices, such as rigorous monitoring of cash flow and expenditures, are crucial for sustaining

profitability in a competitive landscape. The integration of sustainable practices, including Corporate Social Responsibility (CSR) initiatives, can also enhance brand reputation and customer loyalty, ultimately contributing to better financial outcomes. In summary, the strategic alignment of risk management and financial performance is vital for manufacturing companies in Nepal, as it equips them to thrive in a dynamic business environment while ensuring long-term sustainability and growth.

The study's findings indicate a positive relationship between Liquidity Ratio (LR) and Capital Adequacy Ratio (CAR) on Return on Assets (ROA). This aligns with the conclusions drawn by Bashyal and Bhandari (2023), Hajisaaid (2020), Ajibola, Wisdom, and Qudus (2018), and Ashraf, Amen, and Shahzadi (2017). However, this result diverges from the conclusions of Arhinful, Mensah, and Sarfo (2023), Chalise and Adhikari (2022), Deyganto (2021), Shrestha (2018), and Shah (2016).

The study reveals that the Current Ratio (CR) and Credit Risk Ratio (CRR) have an insignificant effect on Return on Assets (ROA). This finding is in agreement with the research conducted by Arhinful, Mensah, and Sarfo (2023), Abeywardana (2016), Iqbal et al. (2015), and Kayode et al. (2014). However, it contrasts with the results presented by Bashyal and Bhandari (2023), Chalise and Adhikari (2022), Deyganto (2021), Shrestha (2018), and Shah (2016).

The study indicates a negative effect of the Liquidity Ratio (LR) on Return on Equity (ROE). This finding aligns with the conclusions of Bashyal and Bhandari (2023), Hajisaaid (2020), Ajibola, Wisdom, and Qudus (2018), and Ashraf, Amen, and Shahzadi (2017). In contrast, it contradicts the results found by Arhinful, Mensah, and Sarfo (2023), Chalise and Adhikari (2022), Deyganto (2021), Shrestha (2018), and Shah (2016).

The study finds a positive relationship between the Capital Adequacy Ratio (CAR) and Return on Equity (ROE). This outcome is consistent with the findings of Hajisaaid (2020), Basit and Irwan (2018), Ajibola, Wisdom, and Qudus (2018), and Shah (2016). However, it contradicts the conclusions drawn by Chalise and Adhikari (2022), Arhinful, Mensah, and Sarfo (2023), Deyganto (2021), Shrestha (2018), and Ali and Faisal (2020).

The study indicates that the Current Ratio (CR) and Credit Risk Ratio (CRR) have an insignificant impact on Return on Equity (ROE). This finding aligns with the research of

Arhinful, Mensah, and Sarfo (2023), Abeywardana (2016), Iqbal et al. (2015), and Kayode et al. (2014). In contrast, it diverges from the conclusions reached by Bashyal and Bhandari (2023), Chalise and Adhikari (2022), Deyganto (2021), Shrestha (2018), and Shah (2016).

The key findings indicate that the average Degree of Operating Leverage (DOL) for UNL and BNL is 1.72 and 3.29, respectively, with UNL demonstrating a relatively favorable DOL in comparison to BNL. A higher DOL signifies greater business risk. Additionally, UNL has an average Degree of Financial Leverage (DFL) of 1.21, while BNL's DFL stands at 3.12, suggesting that UNL's financial leverage is lower than that of BNL. Furthermore, UNL has no long-term debt, as evidenced by its average long-term debt to total debt ratio of 0, while BNL's average long-term debt to total debt ratio is 12,448. Lastly, the average debt-to-total-asset ratio for BNL and UNL is 54.48 and 63.29, respectively, both exceeding the 50% threshold (Panthi, 2018).

The analysis of the financial performance of manufacturing companies in Nepal reveals several significant findings across the various tables examined. A notable observation is the positive impact of the Liquidity Ratio (LR) and Capital Adequacy Ratio (CAR) on Return on Assets (ROA), indicating that companies with better liquidity management and sufficient capital reserves are likely to achieve higher asset returns. Conversely, the Current Ratio (CR) and Credit Risk Ratio (CRR) were found to have an insignificant effect on ROA, suggesting that these factors may not play a critical role in determining asset performance for manufacturers in Nepal.

Additionally, the results indicate a negative relationship between LR and Return on Equity (ROE), which suggests that excessive liquidity could lead to inefficiencies in asset utilization, ultimately affecting profitability. In contrast, the CAR showed a positive impact on ROE, highlighting that firms with adequate capital buffers can enhance their return on equity, thereby indicating better financial health. Furthermore, both CR and CRR were determined to be insignificant concerning ROE, implying that these ratios may not significantly influence equity returns in the manufacturing sector. Overall, these findings emphasize the need for manufacturing firms in Nepal to adopt comprehensive risk management strategies that focus on liquidity and capital adequacy to optimize their financial performance in a competitive environment.

# CHAPTER – V

# SUMMARY AND CONCLUSION

## 5.1 Summary

This study is prepared to find out the impact of Risk management strategies and financial performance analysis of manufacturing companies of Unilever Nepal Ltd, Chaudhary Group, Nepal Distillery Pvt. Ltd, Gorkha Brewery Pvt. Ltd and Jagadamba Steel Industries Pvt. Ltd are the key factors that help a manufacturing companies achieve its goals. If manufacturing companies have high liquidity, then they cannot make profits. Because most of the liquidity is reserved in the manufacturing companies, it does not bring profit to the manufacturing companies. Insufficient liquidity of manufacturing companies can lead to serious financial problems such as loss of public confidence and even lead to bank liquidation. Liquidity management is a challenge for manufacturing companies and banks that want to achieve significant profits. The first chapter includes the research background, problem statement, significance and limitations of the study. The second chapter includes a review of relevant literature, theoretical background of banking principles as well as previous journals, articles and these. The second chapter includes a review of unpublished journals, articles and theses and presents them as theoretical background. Chapter 3 presents the methods and techniques applied to evaluate the relationship between liquidity, deposits, loans and advances profitability of banks in the research sample. In the fourth chapter, data and information collected from different sources are analyzed and presented where the analysis and evaluation are done using different financial and statistical tools. The various liquidity, deposit, loan, advance and profit ratios of current assets are used as statistical tools while the mean, standard deviation, coefficient of variation, coefficient correlation and regression analysis were used as statistical tools.

The descriptive statistics presented the financial performance metrics analyzed. The high standard deviations in ROA, ROE, and CRR indicate that while some firms excel in terms of profitability and risk management, others lag significantly behind. Such variability underscores the importance of tailored financial strategies to enhance performance, manage risks effectively, and ensure sustainable growth in a competitive landscape. Future analyses should focus on identifying the factors contributing to these differences, which could

provide actionable insights for improving overall financial performance in the sector.

The correlation matrix intricate interdependencies between financial performance metrics and risk management strategies in manufacturing companies. The significant relationships between ROA, ROE, and liquidity ratios underscore the importance of balancing liquidity management with effective asset utilization and profitability strategies. Notably, the strong positive correlations between credit risk management and performance metrics suggest that firms prioritizing sound credit practices are better positioned to achieve superior financial outcomes.

The risk management strategies and financial performance of manufacturing companies play pivotal roles in determining their sustainability and competitiveness. The Risk management strategies essentially represents the mix of debt and equity financing employed by a company to fund its operations and growth initiatives. Manufacturing firms often require substantial capital for investments in machinery, technology, and infrastructure. Striking the right balance between debt and equity is crucial for optimizing cost of capital and minimizing financial risk. In the context of manufacturing companies in various regions, including Nepal, the risk management strategies is influenced by factors such as economic conditions, industry dynamics, and access to financing.

In conclusion, the Risk management strategies and financial performance of manufacturing companies are intertwined elements that significantly impact their ability to thrive in a competitive market. Striking a balance in risk management strategies, navigating financial challenges, and consistently delivering strong financial performance are essential for the long-term sustainability and growth of manufacturing firms, both in Nepal and globally.

## 5.2 Conclusion

To evaluate the risk management strategies and financial performance of manufacturing companies in Nepal, a thorough analysis is essential for grasping the economic landscape and the challenges these firms encounter. Understanding risk management strategies is vital for assessing the equilibrium between debt and equity financing, especially given the unique economic conditions and financial market limitations in Nepal. Simultaneously, analyzing financial performance indicators offers valuable insights into the efficiency, profitability, and overall health of manufacturing firms. The conclusions derived from this analysis can

inform strategic decision-making, enabling companies to refine their risk management approaches for sustainable growth and improve their financial performance in an increasingly competitive global market. Additionally, the findings may reveal how external factors such as political stability, infrastructure challenges, and access to financial resources affect the financial health of manufacturing businesses in Nepal. Ultimately, a comprehensive understanding of these elements is crucial for developing targeted policies and strategies that enhance the resilience and success of the manufacturing sector in the country.

The correlation matrix intricate interdependencies between financial performance metrics and risk management strategies in manufacturing companies. The significant relationships between ROA, ROE, and liquidity ratios underscore the importance of balancing liquidity management with effective asset utilization and profitability strategies. Notably, the strong positive correlations between credit risk management and performance metrics suggest that firms prioritizing sound credit practices are better positioned to achieve superior financial outcomes.

The regression coefficients reveal important dynamics between financial ratios and ROA in manufacturing companies. The statistically significant positive impact of Liquidity Ratio emphasizes the necessity for effective liquidity management as a strategy for enhancing asset utilization efficiency. Conversely, the negative relationship of Capital Adequacy Ratio with ROA signals the complexities of financial stability versus performance optimization, indicating that manufacturing firms may need to recalibrate their capital management strategies to foster better operational outcomes. The insignificant effects of Current Ratio and Credit Risk Ratio on ROA suggest that these measures alone may not adequately capture the intricacies of financial performance in this sector.

The regression coefficients reveal essential insights into the relationships between financial ratios and ROE in manufacturing companies. The significant negative effect of Liquidity Ratio on ROE suggests the need for careful management of liquid assets to avoid inefficiencies in capital deployment. The Current Ratio also highlights potential risks associated with short-term liabilities that could impede profitability. Conversely, the positive impact of Capital Adequacy Ratio reinforces the necessity for manufacturing firms

to maintain robust capital structures to foster financial performance. The insignificant role of Credit Risk Ratio suggests that firms should broaden their risk management strategies to encompass a wider range of financial indicators and external factors. Ultimately, a comprehensive approach to risk management that integrates liquidity, capital adequacy, and operational efficiency will be crucial for manufacturing companies aiming to enhance their financial performance and ensure sustainable growth in a competitive marketplace.

### 5.3 Implications

The following recommendations have been given for the enhancement of the risk management strategies and financial performance analysis of selected manufacturing companies in Nepal.

- The average values indicate that NDPL, GBPL, and JSIPL exhibit relatively higher returns on equity than UNL and CG. However, the standard deviation and coefficient of variation highlight the variability and associated risks of these returns. Specifically, GBPL, which has the highest standard deviation and a significant coefficient of variation, reflects a greater level of risk in its capacity to provide consistent returns to its shareholders.

- The correlation matrix intricate interdependencies between financial performance metrics and risk management strategies in manufacturing companies. The significant relationships between ROA, ROE, and liquidity ratios underscore the importance of balancing liquidity management with effective asset utilization and profitability strategies. Notably, the strong positive correlations between credit risk management and performance metrics suggest that firms prioritizing sound credit practices are better positioned to achieve superior financial outcomes.

- The statistically significant positive impact of Liquidity Ratio emphasizes the necessity for effective liquidity management as a strategy for enhancing asset utilization efficiency. Conversely, the negative relationship of Capital Adequacy Ratio with ROA signals the complexities of financial stability versus performance optimization, indicating that manufacturing firms may need to recalibrate their capital management strategies to foster better operational outcomes. The

insignificant effects of Current Ratio and Credit Risk Ratio on ROA suggest that these measures alone may not adequately capture the intricacies of financial performance in this sector.

- The significant negative effect of Liquidity Ratio on ROE suggests the need for careful management of liquid assets to avoid inefficiencies in capital deployment. The Current Ratio also highlights potential risks associated with short-term liabilities that could impede profitability. Conversely, the positive impact of Capital Adequacy Ratio reinforces the necessity for manufacturing firms to maintain robust capital structures to foster financial performance. The insignificant role of Credit Risk Ratio suggests that firms should broaden their risk management strategies to encompass a wider range of financial indicators and external factors. Ultimately, a comprehensive approach to risk management that integrates liquidity, capital adequacy, and operational efficiency will be crucial for manufacturing companies aiming to enhance their financial performance and ensure sustainable growth in a competitive marketplace.
- This study has the potential to address several gaps in the existing literature concerning the connection between risk management strategies and profitability, as well as overall financial performance. It may also offer insights into the profitability levels and liquidity conditions of industrial enterprises in Nepal.
- This study focused on just five manufacturing companies and investigates the connections between risk management strategies, financial performance, liquidity, deposits, long-term debt, short-term debt, and overall profitability. Researchers may consider employing larger sampling techniques to carry out studies that include a greater number of manufacturing firms, banks, and financial institutions.

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## APPENDICES

### Descriptive Statistics

| | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| ROA | 12.12 | 549.62 | 93.305 | 89.77 |
| ROE | 97.00 | 4351.00 | 1101.55 | 1309.80 |
| LR | 0.23 | 126.32 | 27.96 | 28.21 |
| CR | 4.54 | 166.85 | 35.81 | 35.60 |
| CAR | 0.16 | 16.08 | 3.10 | 2.33 |
| CRR | 3.00 | 366.10 | 58.05 | 69.97 |

Valid (Likewise N) 60

### Correlation Metrix

| | ROA | ROE | LR | CR | CAR | CRR |
|---|---|---|---|---|---|---|
| ROA | 1 | | | | | |
| | | | | | | |
| ROE | -.764** | 1 | | | | |
| | | | | | | |
| LR | .675** | -.766** | 1 | | | |
| | | | | | | |
| CR | -.481** | .325 | .629** | 1 | | |
| | | | | | | |
| CAR | .226 | .487** | .354** | .415** | 1 | |
| CRR | .936** | .816** | -.332 | .612** | .209 | 1 |
| | | | | | | |

**. Correlation is significant at the 0.01 level (2-tailed).

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.4701 | 0.221 | 0.133 | 0.52999 |

a. Predictors: (constant), LR, CR, CAR and CRR
b. Dependent Variables: ROA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3.376 | 4 | 0.675 | 2.866 | 0.024 |
| | Residual | 11.897 | 55 | 2.70 | | |
| | Total | 15.273 | 59 | | | |

a. Dependent Variable: ROA
b. Predictors: (constant), LR, CR, CAR and CRR

**Regression Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-value | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.383 | 0.572 | | 0.670 | 0.506 |
| | LR | 0.038 | 0.026 | 0.311 | 1.451 | 0.013 |
| | CR | 0.053 | 0.039 | -0.230 | 1.350 | 0.183 |
| | CAR | -0.137 | 0.058 | -0.336 | 2.349 | 0.023 |
| | CRR | 0.161 | 1.515 | -0.014 | 0.107 | 0.916 |

Dependent Variable: ROA

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.708 | 0.501 | 0.405 | 0.394646 |

c. Predictors: (constant), LR, CR, CAR and CRR

d. Dependent Variables: ROE

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 69.430 | 4 | 13.883 | 5.261 | 0.002 |
| | Residual | 68.624 | 55 | 2.639 | | |
| | Total | 138.054 | 59 | | | |

c. Dependent Variable: ROE

d. Predictors: (constant), LR, CR, CAR and CRR

**Regression Coefficient**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-value | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 6.649 | 1.118 | | 5.595 | 0.000 |
| | LR | -0.001 | 0.013 | -0.478 | -2.885 | 0.008 |
| | CR | -0.291 | 0.147 | -0.330 | -1.981 | 0.058 |
| | CAR | 0.433 | 0.169 | 0.480 | 2.568 | 0.016 |
| | CRR | 0.252 | 0.059 | -0.132 | 0.869 | 0.329 |

Dependent Variable: ROE

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